

DIAMOND VIEW DV1248ST

**Professional Desktop Scanner
User's Manual for Microsoft Windows**

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IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Save these instructions for future reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Openings in the cabinet and the bottom are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other soft surface. The scanner should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. The scanner should be operated from the type of power supply indicated on the rating label. If you are not sure of the type of power available, consult your dealer or local power company.

8. Do not allow anything to rest on the power cord. Do not locate the scanner where persons may walk on the cord.
9. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
10. Never push objects of any kind into this product through cabinet openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock.
11. Never spill liquid of any kind onto the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power cord or plug is damaged or frayed
 - b. If liquid has been spilled into the product
 - c. If the product has been exposed to rain or water
 - d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
 - e. If the product has been dropped or the cabinet has been damaged
 - f. If the product exhibits a distinct change in performance, indicating a need for service.
14. Only use a power cord of the same type as the one originally included with the scanner.

FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

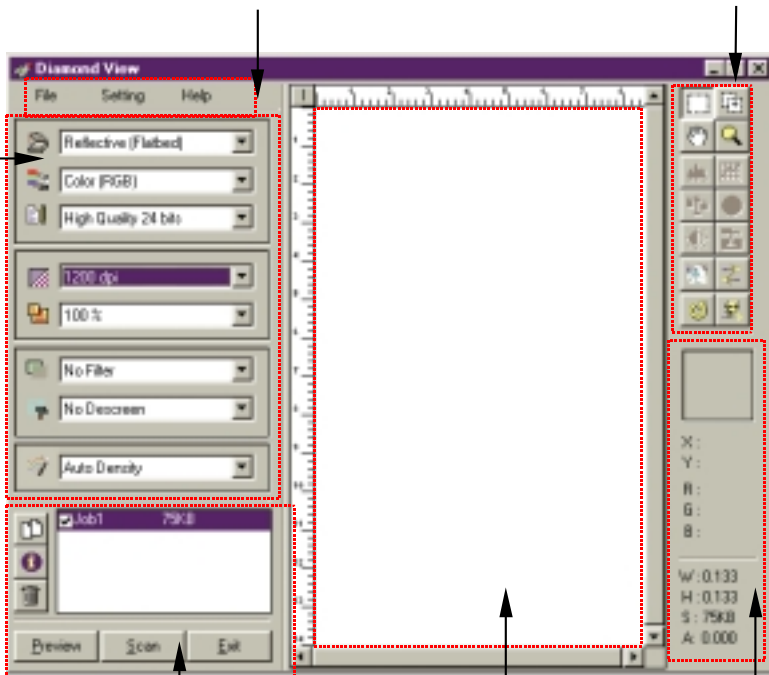
The user should not modify or change this equipment without the written approval of Mitsubishi Electric Australia Pty. Ltd. Modification could void authority to use this equipment.

Diamond View Scanner Driver Screen

Combo Boxes

Menu Bar

Tool Bar



Job List and Command Buttons

Preview Area

Status Area

1. SETTING UP YOUR SCANNER

Check the Package Contents

Check that you have all the following items in the package:

- DV1248ST flatbed scanner
- SCSI interface card
- SCSI cable
- SCSI terminator
- Transparency positioning frame
- Mounted slide holder
- 35mm film-strip holder
- Film holder
- Power cord
- Scanner software – 4 CD-ROM discs
- Transparency positioning frame
- User's Manual

Installing the SCSI Interface Card

Power off your computer and disconnect the computer power from the power outlet. Open the computer's cover and locate an unused PCI slot. Select an empty PCI slot and remove its bracket. Insert the SCSI interface card into the PCI slot (figure 1-1) and secure it by tightening the screw. Close the computer's cover.



Figure 1-1

Unlock the Protection Switches

The scanner has two protection switches: one located at the inner side of the transparency unit (figure 1-2) and the other at the bottom of the scanner itself (figure 1-3).



To Unlock the transparency unit protection switch, turn the knob to the unlocked position with a coin.

Figure 1-2



Figure 1-3

To unlock the scanner protection switch, slide the protection switch to the unlocked position.

Important Note: When you need to transport the scanner, be sure to move the protection switches to their locked positions to protect the components inside the scanner and transparency unit from damage.

Install the Transparency Unit

If the transparency unit has been removed, locate the installation holes at the back of the scanner. Lift the transparency unit and insert the metal poles on the transparency unit into the holes (figure 1-4).

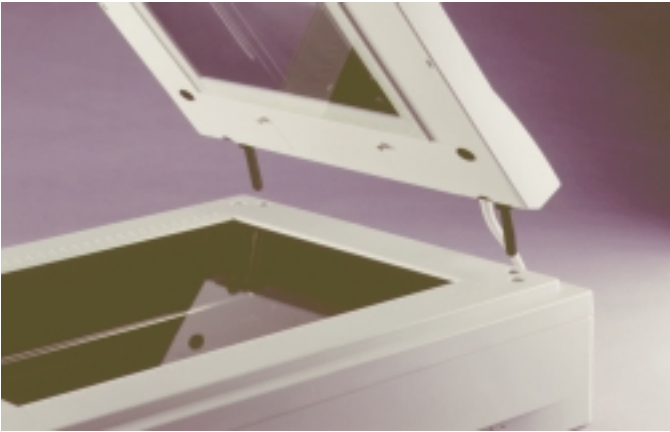


Figure 1-4

Plug the transparency unit cable into the transparency unit connector on the rear panel of the scanner and tighten the screws on the connector (figure 1-5).



Figure 1-5

Connect the Scanner to Your Computer

Plug one end of the SCSI cable (the end with a large, 50-pin connector) into the SCSI port on the scanner's rear panel and the other end into the connector of the SCSI interface card in your computer.



Figure 1-6

Plug the SCSI terminator into the 25 pin connector of the scanner's rear panel.

Plug the power cord into the power receptacle of the scanner's rear panel and the other end into a power outlet. Tighten the screws on all connectors.

Test the Scanner

Reconnection the power cord to your computer. Turn the power of your scanner on and wait until the scanner completes its self-test. The LED indicators will first blink for a few seconds and then remain on. Now start your computer, you are ready to install the software for your new scanner once the operating system has loaded.

Driver & Application Installation

To install the Diamond View scanner drivers:

1. After you power on your computer and Windows starts, the **"New hardware found"** message box will appear on the screen, then the **"Update Device Driver Wizard"** dialogue box will pop up. Click **"Cancel"** to close the dialogue box.
2. Insert the Diamond View scanner software CD-ROM (Disc 1) into your CD-ROM drive. The software installation menu will appear on the screen automatically (figure 1-7). If the software installation menu does not appear automatically a few seconds later, please do the following:

Double-click **"My Computer"** icon on your desktop.

Double-click the icon that represents your CD-ROM drive.



Figure 1-7

3. Click "Diamond View" to install. Follow the instructions on the screen to proceed. Please be sure to choose "SCSI Model" (figure 1-8).

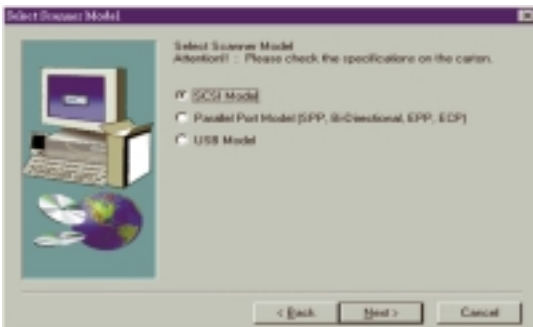


Figure 1-8

4. Choose "DV1248ST" if you are prompted to select the model of your scanner.
-

5. You can choose to install other software applications from the menu. Please follow the instructions of each software installer to complete installation.
6. You will need to restart the computer to complete the installation of the scanner and SCSI adaptor drivers.

Read the User's Manual with a Web Browser

In addition to this User's Manual booklet, a brief electronic version is also available on the software CD-ROM. You can get more information by clicking "**Read User's Manual**" in the installation menu.

2. INTRODUCTION TO SCANNING

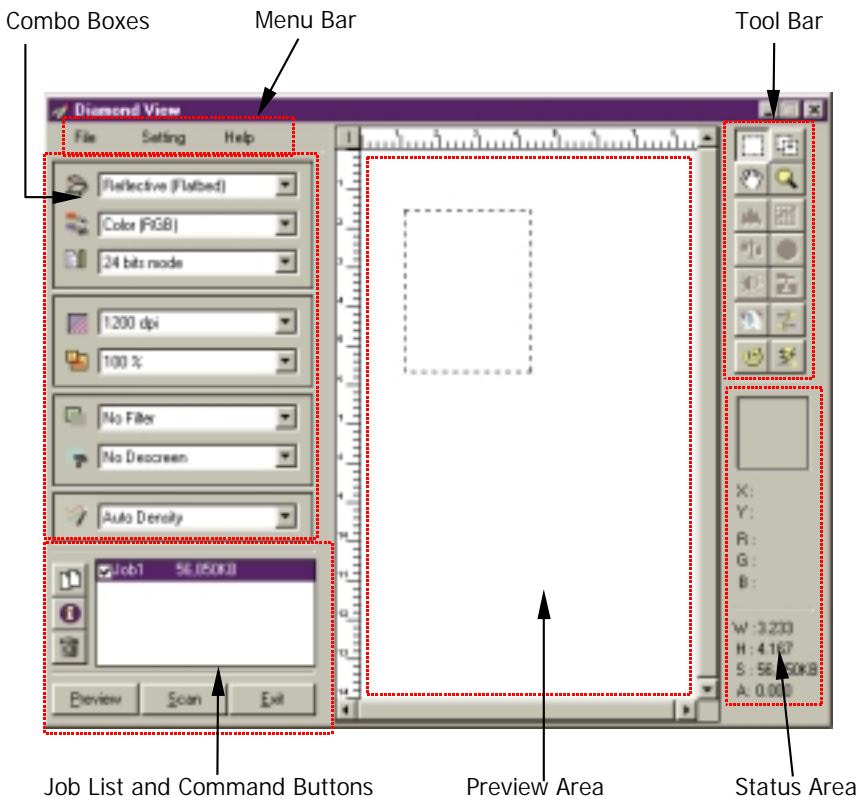
Diamond View is the powerful and versatile driver program for your scanner. It is TWAIN compliant and designed to be user-friendly. With its icon based user-interface and logical task-flow design, you can complete a satisfactory scanning job with only a few mouse clicks. You can perform all of the following tasks using Diamond View:

1. Preview, scan and import the reflective originals or transparencies into your image editing software.
 2. Select the colour depth for scanning, either 24 or 48 bit.
 3. Select the scanning resolution.
 4. Adjust the quality of your scanned image before you actually start editing the image in your image editing software.
 5. Apply batch scan functionality, allowing you to can create and switch between multiple scanning sessions within an image.
 6. Apply special effects to the scanned image with the Invert and Mirror functions.
 7. Select the type of descreening that is to be used.
 8. Sharpen or blur the scanned image
 9. Use the Colour Wizard to adjust the image easily and quickly.
 10. Scale the image.
-

Diamond View Main Screen

You can invoke the Diamond View driver using your image editing or OCR (optical character recognition) software. Depending on the software you use, you may need to select the scanner (image source) before you can use the scanner and select Diamond View to scan and import image. For details, please refer to the instructions that come with your particular software package.

When Diamond View is invoked successfully, the following main screen will appear:



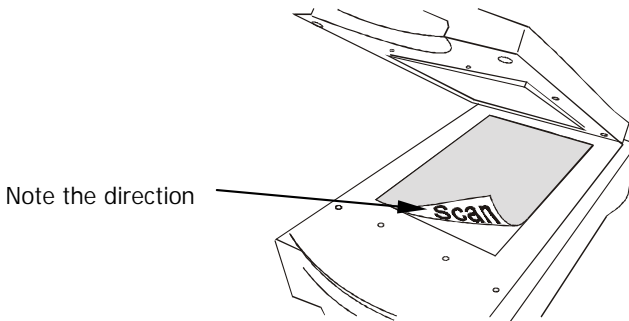
Main Screen Feature	Used to...
Menu Bar	Adjust scan settings and display information about the driver.
Combo Boxes	Specify different scan settings and apply to the scanned image, according to the original you want to scan.
Preview Area	Preview the original image in order to obtain a general understanding of what the image will look like and adjust the scan area.
Tool Bar	Access several advanced tools in order to adjust the scanned image more precisely.
Status Area	Display current image information.
Command Button and Job List	Manage scan jobs and control scan actions.

Scanning Reflective and Transparent Originals

This section will guide you step by step toward a successful scan:

Scanning reflective originals

- Step 1. Place the original face down on the scanner glass plate. Note the direction of the original so that you will not scan the image with the wrong orientation. Close the scanner lid.



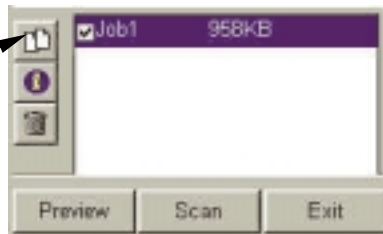
- Step 2. Open your application software.

- Step 3. If this is your first scan, you may have to select the TWAIN source by choosing **Select source** from the **File** menu and then selecting

Diamond View in your application software (You only need to do this once, unless you re-install your application software). Please note that the method of selecting the TWAIN source may differ according to the software you use. For details, please refer to the documents that come with your application software.

- Step 4. Choose **Acquire** from your application software to bring up Diamond View (this may also differ according to the application you use).
- Step 5. From the Diamond View main screen, select **Reflective** in the **Original** combo box, then click **Preview**. A preview image will appear in the **Preview Area**.
- Step 6. Adjust the scan area in the **Preview Area**.
- Step 7. Use the options in the **Combo Boxes** to specify the Resolution, Scale..., etc. that will apply to the scanned image.
- Step 8. Use the options in the **Tool Bar** to adjust the image.
- Step 9. If you need to add another scan area (scan job) to the original, push the **Duplicate** button in the **Job List** to add a new job. Then repeat Step 6 and 7 to do the settings for that scan job.

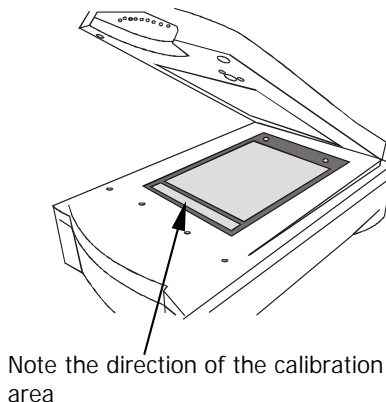
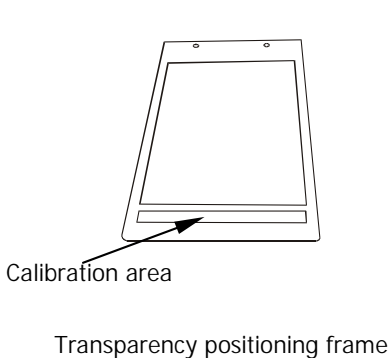
Click this button to add a new job.



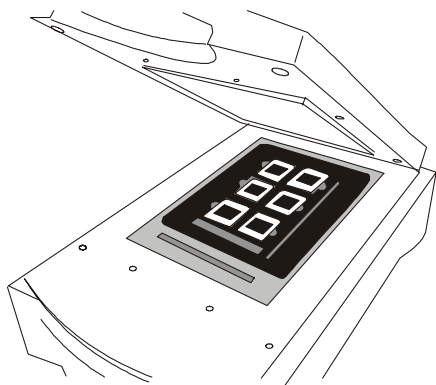
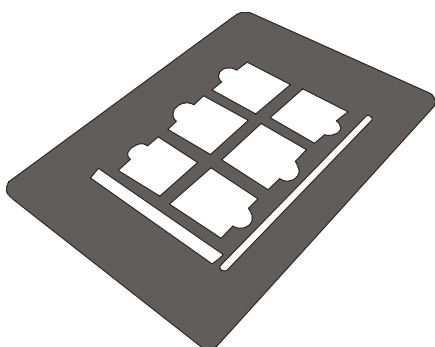
- Step 10. After you have finished with the settings for each scan job, press the **Scan** button to scan.
 - Step 11. A few seconds later, the scanned image(s) will be imported into your application software. You can start to edit the image(s).
-

Scanning transparent originals

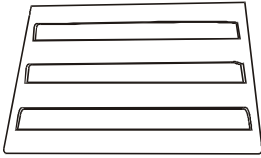
- Step 1. Place your film in an appropriate film frame, then place it on the glass plate of the scanner. When doing so, make sure that the calibration area is facing the right direction, towards the front panel of the scanner. Do not block or cover the calibration area or the scanner will fail to calibrate correctly, resulting in an error.



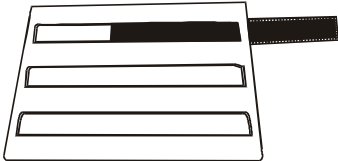
Scanning Mounted Slides



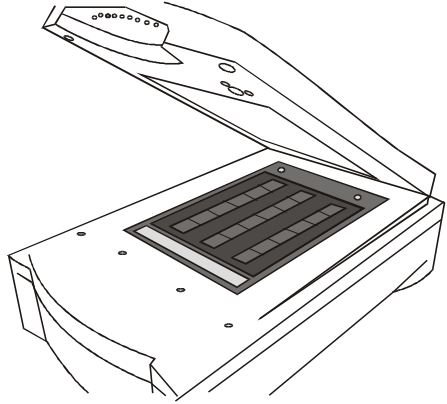
Scanning Film Strips



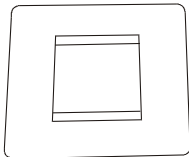
Film strip holder



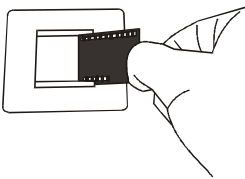
Insert the film strip into the holder



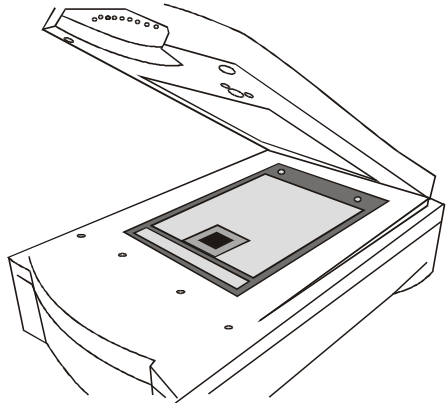
Scanning Positive Films



positive film holder



Place the positive film in the holder



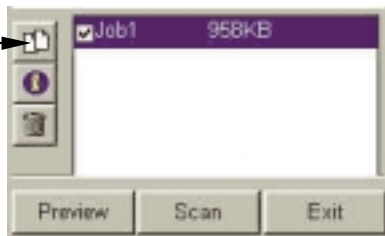
Step 2. Open your application software.

Step 3. If this is your first scan, you may have to select the TWAIN source by choosing **Select source** from the **File** menu, then selecting Diamond View in your application software (you only need to do this once, unless you re-install your application software). Please note that the method of selecting the TWAIN source may differ according to the software you

are using. For details, please refer to the documents that come with your application software.

- Step 4. Choose **Acquire** from your application software. This will bring up the Diamond View main screen.
- Step 5. From the Diamond View main screen, select **Transparent** (if you are scanning a positive film) or **Negative Film** (if you are scanning a negative film) in the **Original** combo box. When the **Film Type** dialog box appears, select the type of film you use from the list and click **OK**.
- Step 6. Click **Preview**. The preview image will appear in the **Preview Area**.
- Step 7. Adjust the scan area in the **Preview Area**.
- Step 8. Use the options in the **Combo Boxes** to specify the **Resolution**, **Scale...**, etc. that will apply to the scanned image.
- Step 9. Use the options in the **Tool Bar** to adjust the image.
- Step 10. If you need to add another scan area (scan job) to the original, click the **Duplicate** button in the **Job List** to add a new job. Then repeat Steps 7 through 9 to adjust the settings for that scan job.

Click this button to add a new scan job.



- Step 11. After you have finished with the settings for each scan job, click the **Scan** button to scan.
 - Step 12. A few seconds later, the scanned image(s) will be imported into your application software. You can then start to edit the image(s).
-

3. UNDERSTANDING DIAMOND VIEW'S FUNCTIONS

This section describes all the features provided by the Diamond View driver. By fully utilising these features, you can scan images more efficiently and quickly.

Menu Bar



There are three selectable menu items in the **Menu Bar**. Each menu item contains several options in its submenu:

File submenu



Diamond View can record the settings you make for each scan session in a configuration file. With this feature, you can specify different settings for each scan job in each configuration file. Load the configuration file when you want to apply the settings. For example, you can save the settings you make for scanning magazine pictures in a configuration file and name it "Magazine". The next time you want to scan a magazine picture, you can load the "Magazine" configuration file and Diamond View will apply the settings recorded in it.

Load Config...

Loads the configuration file you created. When the configuration file is loaded successfully, Diamond View will apply the settings recorded in the configuration file automatically.

Save Config...

Saves the current Diamond View settings into the configuration file.

Save Config As...

Saves the current Diamond View Settings as another new configuration file. This is the usual way that a new configuration file is created. You can designate different file names for each configuration file.

Reset Config

When you select this item, the driver settings will be reset to their default values.

Auto Save Config

When you select this item, the settings will be saved in a configuration file automatically as you exit the Diamond View driver.

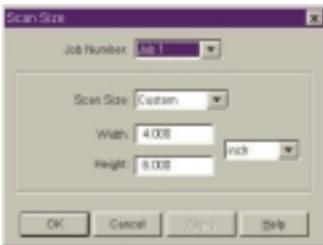
Settings Sub-menu



You can adjust several general scan settings in this submenu.

Scan Size...

When you choose this item, the following dialog box will appear:



In this dialog box, you can set the sizes of the areas to be scanned. First, choose the job number (the numbers of the scan areas listed in the **Job List**) from the job number list box, then set the size of the scan area. Click in the **Scan Size** list box:

If you have set the original as **Reflective (Flatbed)** in the **Combo Boxes**, you can choose the scan area size from the list. Four frequently used formats are listed: **A4**, **A5**, **B5** and **Letter**. You can also customise the scan sizes by choosing **Custom** in the list box and then enter the desired width and height into the **Width** and **Height** text boxes. The default unit is inch. To change the unit, click in the list box with your mouse, and choose the desired unit from the list by clicking on it.

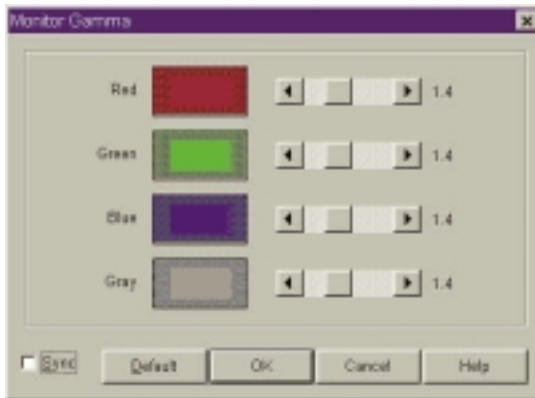
If you have set the original as **Transparent** or **Negative Film**, the list box will contain only two items: **Max. Area** and **Custom**. Choosing **Max. Area**, the full range of the image will be scanned. If you choose **Custom**, you can enter the sizes you want into the **Width** (200 mm/8 inches max.) and **Height** (254 mm/10 inches max.) text boxes.

After you have entered your settings, click on the **OK** button to confirm your settings and close the dialog box. You can press the **Cancel** button to close the dialog box without saving your settings; or you can press the **Apply** button to apply your settings to the image without closing the dialog box.

Monitor Gamma

In general, a monitor cannot display the full colour range of an image. In order to have the monitor approximate the Colours as closely as possible, you usually need to adjust the monitor gamma.

Adjustment of the monitor gamma can make the monitor approximate the Colours of the original image more closely. Choose this item, and the following dialog box will appear:

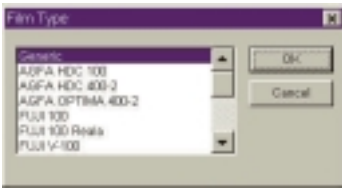


From this dialog box, you can adjust the brightness in the displayed midtones so that the monitor can approximate the colour details of the original images. Drag the scroll bars to adjust the gamma values of red, green, blue and grey until the monitor displays the original colours more accurately. If the **Sync** box is checked, you can adjust all the four gamma values simultaneously by dragging any scroll bar.

When the adjustment is done, click on the **OK** button to confirm your settings and close the dialog box; otherwise, click on the **Cancel** button to cancel your settings and close this dialog box. If you wish to use the default value, click on the **Default** button and the gamma value will be set to 1.4.

Film Type

When choosing this item, the following dialog box will appear:



When you want to scan a negative film, choose your type of film here in advance. The scanning result will be optimised for the film type you select. If you do not know your film type or your film type is not listed, choose **Generic** from the list.

When the selection is done, click **OK** to confirm or **Cancel** to abort.

Auto Preview

To perform the preview operation automatically each time you invoke the Diamond View scanner driver, check the Auto Preview checkbox.

Help Sub-menu



Click on the **Help** submenu, if you are either not clear about certain Diamond View functions, or if you want information about your scanner.

Contents

Click this item to bring up the on-line help system. Before you can use the on-line help system, you will need to have an Internet browser (such as Netscape Navigator or Microsoft Internet Explorer) installed in your computer.

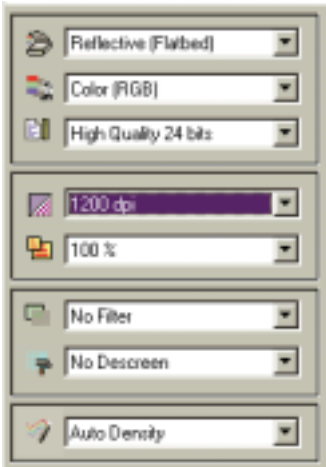
Scanner Info...

Select this item and a dialog box showing the scanner and driver information will appear. This information, especially the driver version, is useful when you call for technical support or if you plan to update your Diamond View scanner driver.

About Diamond View...

Choose this item to display the Diamond View copyright information. Click on the image to close it.

Combo Boxes



Combo Boxes provide several options to adjust the scan settings before you scan an image. In order to achieve the best scan result you may need to adjust the settings according to the intended purpose of the scanned image and the type of original you wish to scan.

Original Box



From this box you can select the original type, according to the type of original you want to scan. There are three items available on the list:

Reflective (Flatbed)

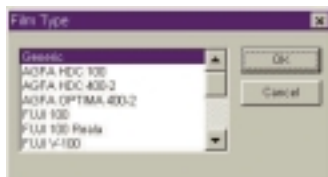
Select Reflective (Flatbed) if you are scanning images from printed pages, such as magazine pictures, photographs or paper documents.

Transparent

Select Transparent if you are scanning positive films or slides.

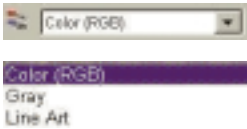
Negative Film

Select Negative Film if you are scanning negative films (such as the 35mm film used in cameras). The following dialog box will appear to select the appropriate film type.



Choose the film type according to the film you wish to scan. If you do not know the film type or if the film type is not on the list, please select **Generic**.

Image Type Box



The **Image Type** box is used to select a particular data type for your scanning. For best results, you will need to select the image type that matches the original. For example, if you are scanning a text document, choose **Line Art** instead of **Colour** to maximise scanning quality and minimise file size. The effect of each item is described below.

Colour (RGB)

Each pixel of a colour image occupies 24 or 48 bits (according to your selection in the **Scan Mode** box). The **Colour** mode is used to scan images with continuous colour tones or grey shades that must be kept (such as a photograph). It contains more information than other image types and may require excessive system memory.

Note: if you select Colour (RGB) as the image type, the “Threshold” function in Tool Buttons will be disabled automatically.

Grey



Each pixel of a grey image occupies 8 bits. A total of 256 grey levels may be represented. The **Grey** mode is used mainly for scanning greyscale images.

Note: if you select Grey as the image type, the “Colour Balance”, “Colour Adjustment”, “Threshold” and “Rotate” functions in Tool Buttons will be disabled automatically.

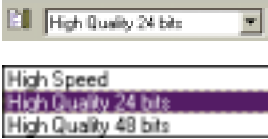
Line Art



Each pixel of a Line Art image occupies 1 bit. A total of 2 grey levels (black and white) may be represented. The Line Art mode is used for scanning documents or graphics containing lines, text and detailed drawings. Select this item if you are scanning for an OCR (Optical Character Recognition) process, and keep the resolution at or above 300 dpi.

Note: if you select Line Art as the image type, the following functions will be disabled automatically: “Descreen”, “Filter” and “Colour Wizard” in Combo Boxes. “Level”, “Curve”, “Colour Balance”, “Colour Adjustment”, “Brightness/Contrast” and “Rotate” in Tool Buttons.

Scan Mode Box



The **Scan Mode** box provides three scan modes: **High Speed** and **High Quality 24 bit** modes and **High Quality 48 bit** colour enhancement mode. The more bits used to reproduce the image colour, the more accurately the scanner represents the colours of the original.

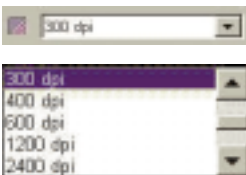
High Speed and High Quality (24 bit) modes

In these modes the Diamond View scanner uses 24 bit colour to capture the colours of the original with 8 data bits for Red, 8 bits for Green and 8 bits for Blue. The High Speed mode will scan the page more quickly, but at a reduced level of quality.

High Quality (48 bit) mode

In the High Quality 48 bit mode, the Diamond View driver uses colour enhancement technology to output the colours of the original as 48 bit colour with 16 bits for Red, 16 bits for Green and 16 bits for Blue.

Resolution Box



Resolution is used to determine how much detail the scanner captures from the original image. When the original is scanned and converted to a digital image, the scanner captures and records the image in terms of **pixels**. If more pixels are used to record an image, the scan has more detail. By increasing resolution, fine details in the image may be seen more clearly.

Resolution is the density of pixels in a digital image and is usually measured by a unit called **dpi (dots per inch)**. If you use a higher resolution to scan an image, the scanner will record the image with more pixels and the quality of the scanned image will usually be improved. Below are two examples of one image scanned at different resolutions:



Image scanned at 150 dpi



Image scanned at 300 dpi

The best way to select the scan resolution is to match it to the purpose of your scan job. This is because the higher resolution you use for scanning, the larger the scanned image file size will become. When resolution is increased above a certain value, it will only enlarge the file size of the scanned image without improving the image quality. This value will depend on the original image.

If you are scanning images for displaying on screens, such as web page images, a resolution of 75 dpi is usually sufficient.

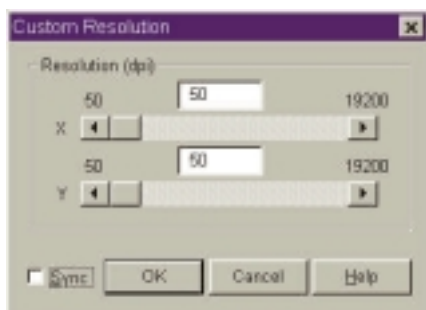
If you are scanning images for output with most printers, we recommend that you use a resolution of at least 300 dpi.

If you are scanning a text document for OCR, we recommend a resolution of 600 dpi or above.

Scenarios for using a High Resolution Scan

High resolution scans (above 600 dpi) are generally used for professional applications where there is a need to retain the sharpness and overall quality of the original images.

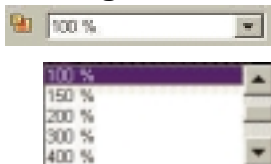
Select a resolution (ranging from 75 dpi to 19200 dpi) from the **Resolution** box. Alternatively, you may select **Custom...** to customise resolution. Once you select **Custom...**, the following dialog box will appear:



From this dialog box, drag the scroll bars to adjust the resolution of the X (Horizontal) and Y (Vertical) axis independently. This may however, cause the resolution of the X-axis to be different from that of the Y-axis. Consequently, the shape of the original image will be altered. To avoid this, you may check the Sync check box to adjust the resolutions of the X- and Y-axes simultaneously. This will constrain the proportions of the original image.

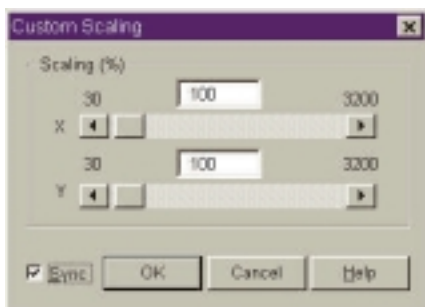
When you get the desired effect, click on the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustment, click on the **Cancel** button to cancel your settings and close the dialog box.

Scaling Box



The scaling combo box allows you to specify the horizontal and vertical scale of the image to be scanned. Note that the maximum and minimum scaling is determined by the resolution.

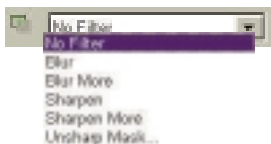
The scaling unit is a percentage (%). You may select a scaling percentage from the list. The value selected applies to the horizontal and vertical coordinates. To customise the scale, you may select the **Custom...** item to invoke the **Custom Scaling** dialog box shown below:



From this dialog box, you can adjust the scales of the X (Horizontal) and Y (Vertical) axes independently by dragging the scroll bars. This may cause the scale of the X-axis to be different from that of the Y-axis. Consequently, the shape of the original image will be altered. To avoid this, you can check the Sync check box to adjust the scales of the X- and Y-axes simultaneously. This will retain the original shape of the image.

When you get the desired effect, click on the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustment, click on the **Cancel** button to cancel your settings and close the dialog box.

Filter Box



The **Filter** combo box allows you to sharpen or blur an image. You can choose from the list: **No filter**, **Sharpen**, **Sharpen more**, **Blur**, **Blur more** and **Unsharp Mask...**

If you want the edge of the image to be sharper, i.e., in a higher contrast against the background, select sharpen or sharpen more. If you select **Blur** or **Blur more**, the edge of the image will be blurred. If you want to adjust the sharpness more accurately, select **Unsharp Mask...** and the **Unsharp Mask** dialog box will appear:



From this dialog box, you can adjust the sharpness accurately. Dragging the scroll bar to the left will blur the image, and dragging the scroll bar to right will sharpen the image. You can also directly enter the desired value into the **Amount** entry box to change the sharpness.

When you get the desired effect, click on the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustment, click on the **Cancel** button to cancel your settings and close the dialog box.



No filter



Blur



Blur more

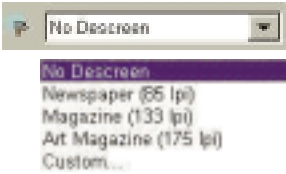


Sharpen



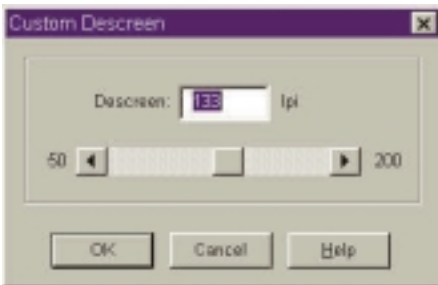
Sharpen more

Descreen Box

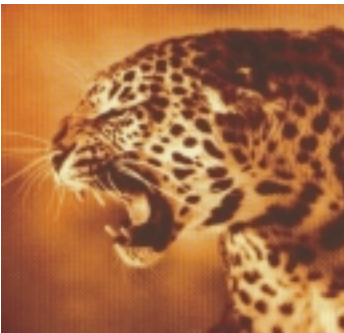


If you are scanning images from magazines, newspapers or other printed materials, you may find that the scanned image appears to be covered by tiny screen patterns. To eliminate this screen pattern, you can use the options in the **Descreen** box.

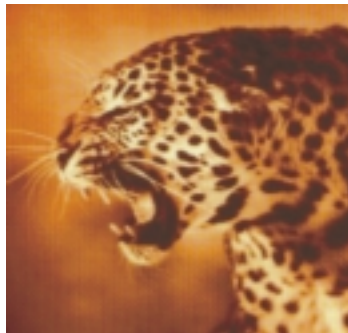
According to the original you scan, you can select from the **Newspaper**, **Magazine** or the **Art Magazine** form to match your need. You can also select **Custom...** to custom the descreen setting. When **Custom...** is selected, the following dialog box will appear:



In this dialog box, you can adjust the descreen value manually between 50 and 200 lines per inch by dragging the scroll bar to right or left, you can also directly enter the desired value in the **Descreen** entry box to set the descreen value. When you get the desired effect, click on the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustment, click on the **Cancel** button to cancel your settings and close the dialog box.

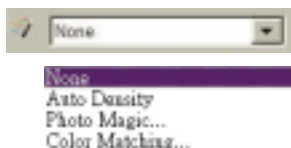


Original scanned image



Apply Descreen at 133 lpi

Colour Wizard Box



The **Colour Wizard** box offers two quick and convenient tools for you to adjust the overall quality of the scanned image:

Auto Density

Select **Auto Density** to optimise the density of the image automatically.

Photo Magic

If you select **Photo Magic**, the following dialog box will appear:



There are three tabs in this dialog box. Each tab contains certain image enhancement options in thumbnails. You can click to select each thumbnail, and a red frame will appear around it. Meanwhile, a related description on the modification applied will appear in the lower part of the dialog box.

If you find a satisfactory effect to use, click **OK** to exit the dialog box and apply the effect while scanning. Otherwise, click **Cancel** to exit the dialog box without applying the effect.

Film Wizard

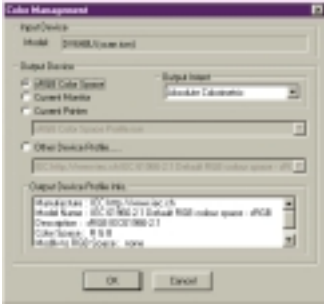
Film wizard is a convenient tool for you to correct the Colour deviation that may occur when you scan negative films. The following dialogue box will appear after you choose this item:



You can choose among the thumbnails for a best result to use. Click **OK** to apply and exit. Otherwise, click **Reset** to maintain the default state of the image or **Cancel** to abort and exit.

Note: this function item appears only if you choose "Negative Film" in the Original box.

Color Matching



The Color Matching function allows you to maintain the consistency of Colour reproduction between the scanner and other output devices.

Note:

1. This function item only appears when you choose “Reflective” in the Original box.
2. This function is not supported by Windows 95.



Input Device

The name of the input device (your current scanner) is shown here.



Output Device

You can choose an output device to use by clicking each radio button. The related information will be displayed in the **Output Device Profile Info** box.

If you choose current printer or other devices as the output device, you need to select a Colour profile to use.

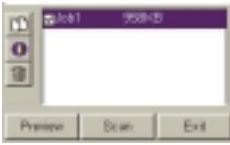
A colour profile is a file that tells a device how to manage colours so it can reproduce Colours more accurately and close to the origin. These profiles are usually provided by the device manufactures or you can use certain colour management software to create them.

Output Intent

According to the output purpose, you can select from 4 colour matching methods using this drop-down list box. The table below gives the output intent and their meanings:

Intent	Meaning
Absolute Colormetric	Maintain the white point. Match each colour with its nearest colour in the destination gamut.
Saturation	Maintain saturation. Used for business charts and other situations in which undithered colours are required.
Relative Colormetric	Maintain Colormetric match. Used for graphic designs and named colours.
Perceptual	Maintain contrast. Used for photographs and natural images.

Job List and Command Buttons



The **Job List** and **Command Buttons** are used to control the scan job flow while you scan images.

Job List

The Job List provides information on all scan jobs in process. The file size is also displayed in the list.



The file size will vary according to the resolution, image type and scan size you specify. Please refer to the table below to get a general concept of file size:

		75dpi	150dpi	300dpi	600dpi	1,200dpi	2,400dpi
Line Art	3"x5"	11	44	170	670	2,659	10,592
	4"x6"	18	69	270	1,068	4,245	16,929
	5"x7"	26	100	392	1,553	6,184	24,672
	A4 (210x297mm)	71	278	1,101	4,379	17,466	69,757
	Legal (8.5"x14")	85	334	1,323	5,261	20,981	83,799
	Letter (8.5"x11")	67	263	1,039	4,133	16,485	65,842
	35mm film/slide	1	4	16	61	237	938
Gray	3"x5"	83	331	1,332	5,282	21,111	84,410
	4"x6"	133	529	2,114	8,448	33,771	135,042
	5"x7"	193	772	3,082	12,316	49,243	196,924
	A4	548	2,181	8,716	34,846	139,344	557,294
	Legal (8.5"x14")	656	2,620	10,471	41,860	167,392	669,437
	Letter (8.5"x11")	516	2,059	8,227	32,890	131,523	526,014
	35mm film/slide	7	29	116	465	1,855	7,412
Colour (24-bit)	3"x5"	248	990	3,959	15,829	63,298	25,316
	4"x6"	396	1,584	6,333	25,323	101,271	405,042
	5"x7"	578	2,310	9,234	36,926	147,680	590,674
	A4	1,641	6,534	26,129	104,497	417,950	1632,256
	Legal (8.5"x14")	1,964	7,850	31,389	125,532	502,080	1961,000
	Letter (8.5"x11")	1,543	6,168	24,662	98,632	394,491	1540,096
	35mm film/slide	21	87	348	1,390	5,556	22,217

Unit: Kilobytes

For example, if you are scanning a 3" x 5" photo in Colour mode at 300 dpi, the file size of the scanned image will be 3,959 KB, or 3.959 MB.

When you have created multiple scan jobs (see below for how to create a new scan job) in the list, you can check or uncheck the box in front of the job name to decide whether to proceed scanning that specific job(s). By selecting each scan job in the list, you can adjust different scanning settings for each scan job respectively.



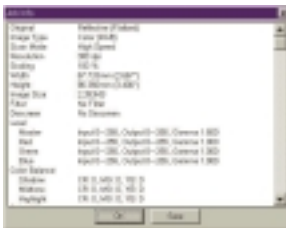
Duplicate Button

Click this button to add a new scan job. This is useful when you want to scan multiple images in one original. After you click this button, a new scan area will appear in the preview area, and the new job will appear in the **Job List**. You can add up to 10 scan jobs in one scan session.



Info Button

The Info button is used to display the detailed information of selected scan job. You can first click to select the job in the **Job List** and then click this button to display its detailed information:



You can either click **OK** to close this information window or click **Save** to save the information as a text file for your future reference.



Delete Button

Use the **Delete** button to delete a scan job. First click on the scan job to be deleted in the **Job List**, then click this button to delete the job.



Preview Button

Use the **Preview** button to start previewing the image. Preview proceeds in Colour or in monochrome depending on the setting in the **Image Type** combo box.



Scan Button

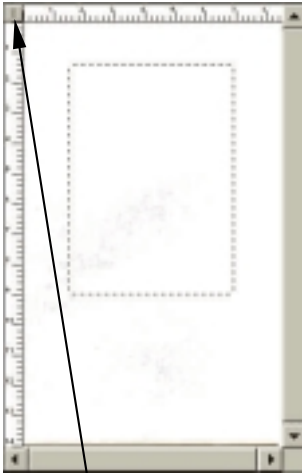
Use the **Scan** button to start scanning the image.



Exit Button

Click on the **Exit** button to exit Diamond View.

Preview Area



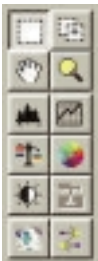
Unit button

The **Preview Area** is used to preview image in rough quality. You can use the cursor to point to a pixel to read its value. You can also set the scanning area and view an instant preview of the effects caused by parameter changes from the Image functions. There are two rulers to help you set the scanning area.

To the left and top of this area, rulers are shown to give you a reference for the dimension of the image. You can change the rule unit by pressing the **Unit** button. "P" represents pixel; "I" represents inch, and "M" represents millimetre.

The **Preview Area** displays the preview image that is acquired after the **Preview** button is selected. Also, any parameter change made to the image is instantly displayed in it.

Tool Bar



The **Tool Bar** consists of a series of useful tools that you can use to adjust the image more precisely.



Selection Button

You can first click on the **Selection** button and then adjust the selection area in the **Preview Area**.

The selection area is a dotted rectangle in the **Preview Area**, and each selection area in an image represents a scan job. Only the part of the image enclosed in the selection area will be scanned and transferred into the image editing software. In order to minimise the

size of the scanned image file, it is better to select and scan only the necessary part of the image with selection area.

To adjust the selection area:

1. Move the selection area by pointing the mouse cursor to the selection area. When the cursor turns into a crossed arrow, click and drag your mouse to move the selection area in the **Preview Area**.
2. Adjust the size of selection area by moving the cursor over the edge of selection area. When the cursor turns into a double-sided arrow, click and drag your mouse to expand or shrink the selection area.



New Frame Button

Use the **New Frame** button to add a new selection area to the **Preview Area**. (To do so, you can also use the **Duplicate** button in **Job List**). First click this button, then move the mouse cursor into the **Preview Area**. When the cursor becomes a cross, click and drag your mouse to create a new selection area. The new selection area (scan job) you just created will also be listed in the **Job List**. You can use the buttons in the **Job List** to delete or view detailed information of that job.



Hand Button

The **Hand** button is used to move the preview image within the **Preview Area**. If the preview image is larger than the Preview Area, you can first click this button, move the cursor onto the preview image, then click and drag your mouse to move.



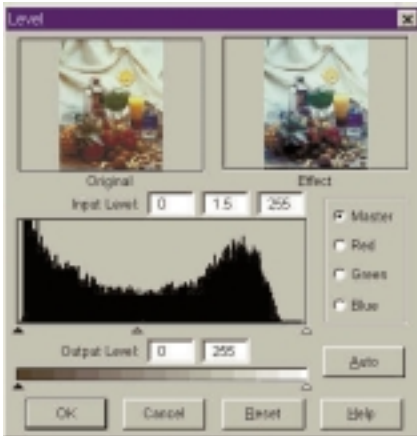
Zoom Button

Use the **Zoom** button to get a closer look at the preview image. Click on the **Zoom** button to enlarge the preview image. When the cursor turns into a magnifier, move it over the preview image, and then click on it. You can zoom out from the image by first pressing and holding "Alt" key on your keyboard and then clicking on the preview image.

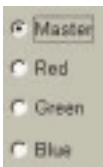


Level Button

By clicking on the **Level** button, the Level dialog box will appear.

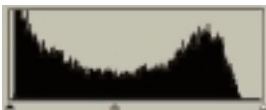


The Level dialog box includes several useful tools for you to check the Colour level information of the image and adjust the image quality. A description of each component in the dialog box and how they work to affect the image follows.



Colour Channel box

Use the **Colour Channel** box to select a Colour channel to adjust. This will allow you to adjust the histogram property of each Colour channel respectively.



Histogram

A **Histogram** displays the distributing status of dark and bright pixels in an image. The x-axis is divided into 256 equal portions, representing the brightness level of 0 to 255. The y-axis is used to represent the quantity of pixel in each brightness level. A comparison of two images and their histograms follows:



Brighter images have brighter pixels, therefore the bars to the right are higher than those at the left.



Darker images have darker pixels, therefore the bars to the left are higher than those to the right.

In addition, if we take a look at the two images below:



Image 1

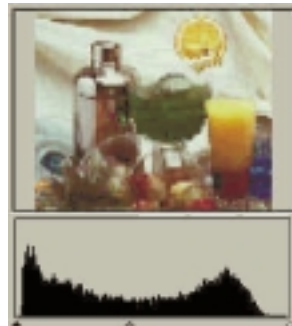


Image 2

We can see that in Image 1, there is a higher contrast between the brighter and darker part of the image. Bright and dark pixels occupy a larger portion of the total image. Therefore, in the histogram there are higher bars in the left (darker side) and right (brighter side), and in the centre the bars are relatively much lower, which means that there are only a few midtone pixels in the image.

In image 2, pixels in objects possess greater levels of brightness and darkness. The distribution is more even than that in Image 1 as well. Therefore, the brighter, midtone and darker pixels share evenly the total pixels in the image. This will result in the histogram for Image 2 appearing smoother.

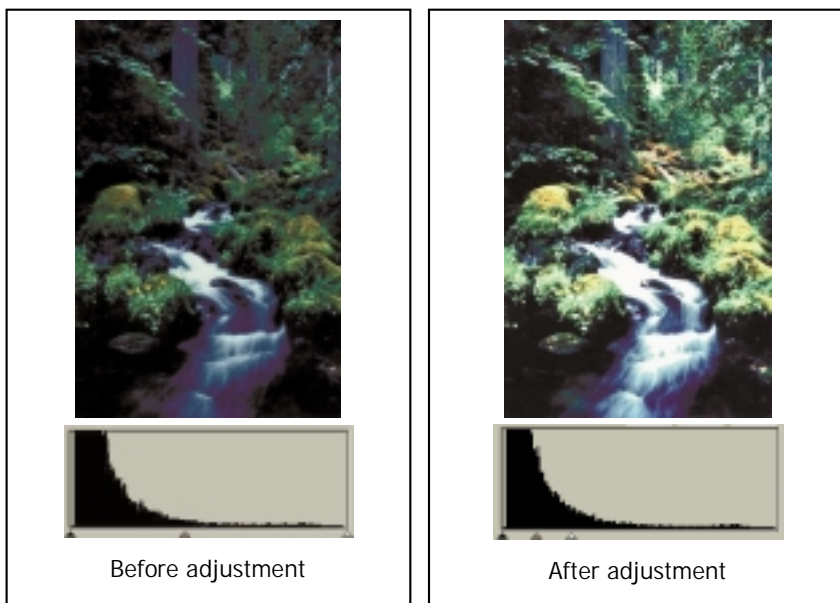
Now that we can understand the information in the histogram, the next step will be to adjust the image with histogram tools. Below the **Histogram**, there are three tiny triangles:



By dragging these triangles, you can adjust the brightness and contrast of an image precisely. For example, if you drag the **Shadow Threshold** triangle to the right, the pixels with lower brightness level than the **Shadow Threshold** will be cut into black. This makes the image look darker. If you drag the **Highlight Threshold** triangle to the left, the pixels with higher brightness level than the **Highlight Threshold** will be turned into white. This makes the image look brighter.

The **Midtone** triangle is used to control the brightness level of midtone pixels. Dragging the **Midtone** triangle to the left will increase the brightness level of midtone pixels and make the midtone area of image look brighter. Dragging the triangle to the right will decrease the brightness level of midtone pixels and make the midtone area of image look darker.

Below is an example of using the histogram tools to enhance the image and add detail:





Input Level box

The **Input Level** box displays the value of **Shadow Threshold**, **Midtone** and **Highlight Threshold** respectively. You can also input each value here directly.



Output Level box

The **Output Level** box is used to expand the output level of the image Colour. You can either drag the triangles below the bar or enter the value directly to adjust.

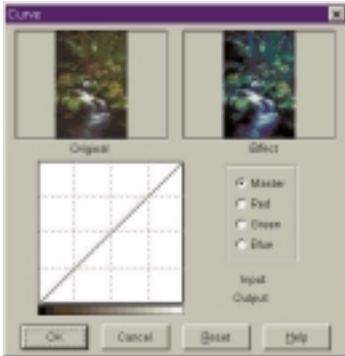
If the Input Level is set as 20 to 230, then 210 (230 minus 20) Colour levels can be represented in the image. If you set the Output Level as 10 to 250, then the original 210 levels of Colour can be "expanded" to 240 levels (250 minus 10), which can enrich the Colour and display more details in the image.

You can also click on the **Auto** button in the dialog box to adjust the histogram properties automatically. When you have finished with adjustments, you can click **OK** to apply, or click **Reset** to restore the default settings. To abort and exit the dialog box, click **Cancel**.

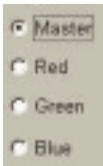


Curve Button

The **Curve** tool is used to adjust the brightness properties of midtone pixels in an image. Once you click on the Curve button, the following dialog box will appear:



An introduction to each component in the dialog box and a description of how to use the Curve tool to adjust an image follows.



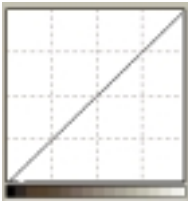
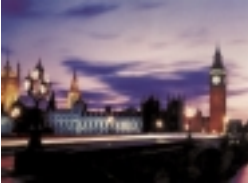
Colour Channel box

Use the **Colour Channel** box to select the colour channel to be adjusted. This allows you to adjust the curve property of each Colour channel independently.

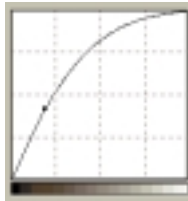


Tonal Map

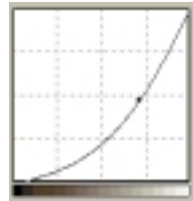
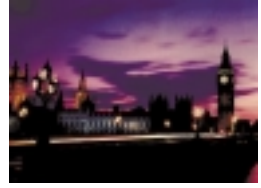
The x-axis in the **Tonal Map** represents the input brightness level of the pixels in an image. The y-axis represents the output brightness level of the image. By clicking and dragging the curve to change its shape, you can adjust the difference between input and output brightness levels of an image without making large changes to the dark and bright areas. If we compare the following images and their Tonal Maps:



The original image and its Tonal Map. The curve is straight and diagonal.



Drag the curve to the left, and the mid-tone area of the image becomes brighter.

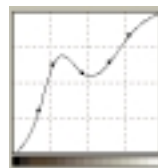
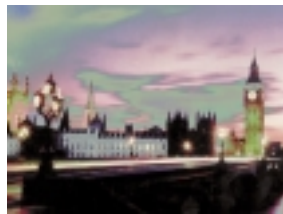


Drag the curve to the right, and the mid-tone area of the image becomes darker.

You can also click the curve to add new points and further change the shape of the curve:



Click to add a new point.



Input: 150
Output: 112

Input/Output Status Area

You can read the precise input/output value here.

When you have finished with adjustments, you can click **OK** to apply, or click **Reset** to restore the default settings. To abort and exit the dialog box, click **Cancel**.



Colour Balance Button

Click the **Colour Balance** button to open the Colour Balance dialog box:



In this dialog box, you can change the mixture of colours of an image and emphasise or diminish certain colours.

A description of Colour Balance components follows.



Channel

This is where you can select the channel to be adjusted.



Adjustment Area

You can drag the triangles or enter the value (from 0 to 100) in the box directly to adjust.

To adjust the colour balance, first, you can select the channel you want to adjust, then drag the triangles under the three colour bars. In addition, you can also enter the desired values directly into the three entry boxes to the right of the Colour bars to adjust the Colour balance.

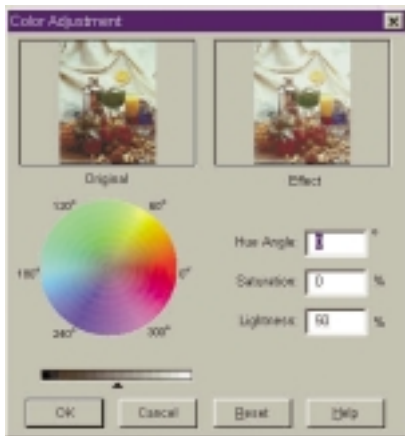
For example, if the colour of the brighter area in the original you wish to scan appears to be bluish, you can first choose **Highlight** as the channel, and then drag the triangle below the Cyan-Red bar to the right, or drag the triangle below the Yellow-Blue bar to the left to eliminate the bluish effect.

When you get the desired effect, click the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustment, you can click on the **Reset** button and the settings will return to the default values. Alternatively, you can click the **Cancel** button to cancel your settings and close the dialog box.



Colour Adjustment button

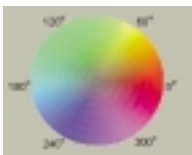
Click the **Colour Adjustment** button, and the Colour Adjustment dialog box will appear:



Colour Adjustment is another convenient tool that you can use to adjust and calibrate the Colours in an image. This function works much like the **Colour Balance** tool, but it provides another way to control the property of image Colours.

The **Colour Adjustment** tool uses three control items: **Hue**, **Saturation** and **Lightness**. **Hue** is a characteristic that distinguishes one Colour from another, while **Saturation** decides the intensity of a Colour. **Lightness** is used to measure the amount of brightness in a Colour. The lighter a Colour is, the higher lightness it has.

Colour Wheel



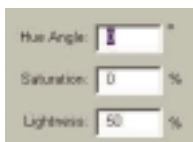
Colour Wheel is used to specify the hue and saturation of the colour you want to use. Move your mouse cursor on the Colour Wheel and then click on it. Drag within the Colour Wheel to select the hue of the Colour you want to use. The distance from the centre of the wheel decides the saturation of the colour: the farther you drag your mouse cursor from the centre of the Colour Wheel, the higher the saturation.

Lightness Bar



You can drag the triangle below the Lightness Bar to adjust the lightness of the colour you choose. To increase the lightness, drag the triangle to the right. Otherwise, drag the triangle to the left to reduce the lightness.

Entry Box



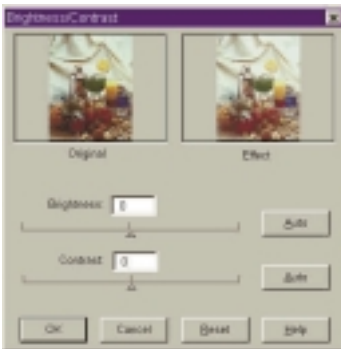
While you drag within the **Colour Wheel** to choose the hue and saturation of colour or drag the triangle below the Lightness Bar to specify the lightness of colour, the related information will also be shown in the **Entry Boxes**. You can also enter the values here directly.

When you have finished with adjustments, click the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustments, you can click the **Reset** button and the settings will return to the default. Alternatively, you can click the **Cancel** button to cancel and close the dialog box.



Brightness/Contrast button

Click the Brightness/Contrast button and the Brightness/Contrast dialog box will appear:



You can adjust the overall brightness and contrast of the image manually or automatically in this dialog box. To adjust the brightness and contrast more precisely, you can use the **Curve** and **Level** function.

Brightness control



You can drag the triangle below the bar to increase/decrease the overall brightness of the image, or click Auto button to adjust the brightness automatically.

Contrast control



You can drag the triangle below the bar to increase/decrease the overall contrast of the image, or click Auto button to adjust the contrast automatically.

When you have finished with adjustments, click the **OK** button to confirm your settings and close the dialog box. If you are not satisfied with the adjustments, you can click the **Reset** button and the settings will return to the default. Alternatively, you can click the **Cancel** button to cancel and close the dialog box.

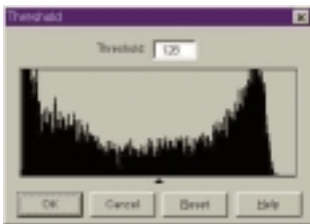


Threshold button

Threshold function is very useful when you scan line art images or scan documents for OCR (optical character recognition) use. You may use this function to adjust the quality of line art images or eliminate unwanted dots in the document to improve the accuracy of recognition.

*Note: this function is only applicable when you select **Line Art** as the Image Type.*

Select the Threshold button, and the **Threshold** dialog box will appear:



The x-axis in the histogram represents the brightness level of the pixels in the image (from 0 to 255, from left to right). The y-axis represents the quantity of pixels.

To adjust the threshold value, drag the triangle below the histogram or enter the threshold value in the **Threshold** entry box directly. For example:

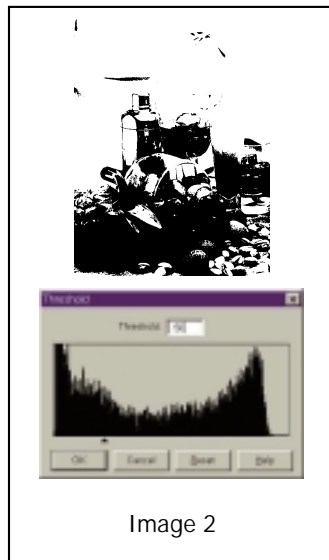
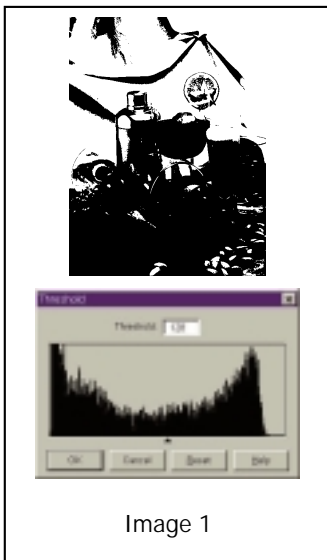


Image 1 is the original scanned image, while in Image 2 the threshold value is changed into 56. This means that pixels in the image with brightness level below 56 will all be cut into black, and those with brightness level above 56 are all turned into white. Therefore, you will find that by setting a lower threshold value, some details are lost in the new image. However, if there are many unwanted dots in an image, you can eliminate them.

When you have finished with the threshold adjustment, you can click **OK** to confirm, or click **Cancel** to abort and exit the dialog box. Otherwise, you can click **Reset** button and the settings will return to the default 128.

Invert button



You can click the Invert button to get an inverted or negative image:



Original image



Image after **Invert** is applied

Mirror button



You can click the Mirror button to get a mirror reflection effect on the original as if you were viewing the image in a mirror:



Original image



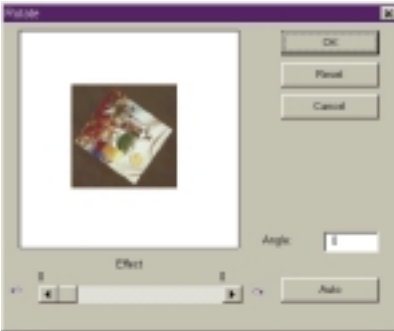
Image after **Mirror** is applied



Rotate button

You can rotate the selection area easily with this button. For example, if the original scan is not aligned correctly, you can use this function to correct the tilt.

After you preview the photo, adjust the selection area to approximately encompass the photo. Then click this button to display the Rotate dialog box:



You can drag the slider to rotate the image manually or click the **Auto** button to let Diamond View align the image automatically. You can also enter the rotation angle in the **Angle** entry box directly.



Original image



Image aligned by clicking **Auto**

When you have finished with the rotation, you can click **OK** to apply, or click **Cancel** to abort and exit the dialog box. Otherwise, you can click **Reset** button to reset the angle.

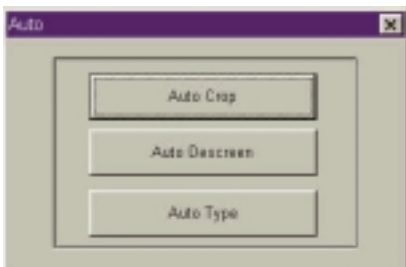
Note:

1. *The Auto function applies only to reflective originals with rectangular edges (e.g., photographs).*
 2. *The rotation angles that are available can be limited by the size and position of the selection area.*
-



Auto button

After you preview an image, you can press this button to open the **Auto** dialogue box:



Auto Crop

Click this button and the Diamond View driver will crop the scan area automatically and select only the necessary size for scanning the image.

Auto Descreen

Clicking this button will detect and apply an appropriate descreen value for scanning.

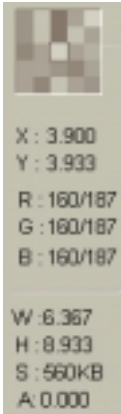
Auto Type

Click this button to detect the image and choose an appropriate image type automatically.

When you have made your selection, you can click **OK** to confirm or **Cancel** to abort and exit.

Status Area

The Status Area provides information of the image you are working on:



Pixel Display Box

This box displays the colour of the pixel that the mouse cursor is currently pointing to.



Pixel Information Area

The location of the pixel expressed in (X,Y) coordinates and the RGB values of the pixel are also displayed here.

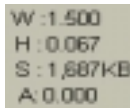


Image Information Area

The image information is displayed here

W = width

H = height

S = image size

A = rotation angle

4. PHOTO EXPRESS

In this chapter you will be introduced to the fantastic world of Photo Express. Learn more about this bundled software and make your scanned photographs and other images more interesting and colourful!

Note: Refer to *Photo Express electronic User's Manual on the software CD for more details about how to use its features and functions.*

Introduction

Welcome to Photo Express, the new cool tool for expressing your creativity with pictures of your family, friends or anything else! Photo Express is the ultimate tool for adding that extra spark of life to your photos - it gives you the power to take ordinary, everyday pictures and turn them into high-quality works of art. With its guided work-flow and intuitive interface, you'll be printing out personalised birthday cards, calendars, and posters in no time at all!

Photo Express brings a whole new attitude to photo editing. With its professional-quality templates and easy-to-use editing and management tools added to an all new interface, photo editing has never been easier or this much fun. High-end tools in a home environment put the power of a photo studio right at your fingertips.



Repair cherished pictures with powerful touch-up and clone tools.



Realistic paint tools turn any scene into a work of art.



Organise and manage all your digitised photographs with Album. Keeping track of your loved ones has never been easier.



Use templates to create outstanding calendars, birthday cards, greeting cards, invitations, and much, much more!

Getting Started

To run Photo Express, double click the Photo Express icon on your Windows desktop or open from Windows Start Menu. When you run Photo Express, make sure that the Windows display is set for a resolution of 800 x 600 or 1024 x 768 pixels and using Hi Colour (15/16 bit) or True Colour (24 bit) mode.

The following screen will appear when you start Photo Express. It's best to familiarise yourself with the components in the interface before you actually start:

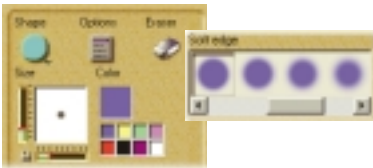




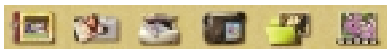
Mode Tab: The Mode tabs switch Photo Express between Photo mode and Project mode. Photo mode is where the majority of your work is done, while the Project mode lets you make greeting cards, name cards, and other fun things based on templates.



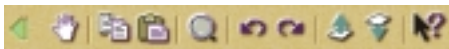
Command Panel: The Command panel lists all of the available categories in Photo Express necessary for getting the most out of your creativity when working on photos. Each category contains a specific set of tools.



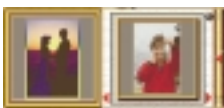
Options Panel: The Options panel shows you all the different options available for any given tool.



Tool Bar: The Toolbar contains all of the tools you need to edit your photos. Each group of tools is divided into categories - when you select a new category, the tools on the Toolbar change accordingly. Categories can be selected from the Command panel.



Shortcut Bar: The Shortcut bar makes available to you all the most commonly used menu commands. These commands vary depending on the Command panel category you are currently in. Click the green arrow to hide the Shortcut bar.



Thumbnail scroll: The Thumbnail scroll opens from the **Global Viewer** and lists all the images you currently have open with the topmost image displayed in the window below the Command panel.

Workspace: The Work space is where your photo is placed as you work on it.

Getting Images

The first thing you want to do when you start Photo Express is to get the photos you want to work with into the actual program. The place you start is with Album. From here, you can do almost anything in Photo Express. All other ways of getting photos can work independently of Album, but they are also set up to let you capture or open images directly to it.

Note: *The Project tab only allows you to open Project Template files (*.tpx and *.tpl). For information on adding photos and other images to the template, please see Working with Templates.*

Working with Album

Album lets you organise the photos in your computer into convenient "books" similar to real-world photo albums. These books contain thumbnails of all the images you select to put in them, as well as links to said images, information, and annotations. This way, you have instant access to all your photos from directly within Photo Express. Organise photos by author, subject, title and catalogue.

To create a new Album:

1. Click the **Get** category button on the Command Panel.
2. Select **Album** from the Toolbar.
3. Click the **New** button in the Options panel. The New Photo Album dialog box opens and you can set up the new album file.



To add new images to an album:

1. Select an album.
2. Click the **File** icon and browse for the folder where the images are stored.
3. When they appear in the Options panel, click the **Select All** button (or select images individually by holding down the Ctrl key as you click them).
4. Next, select the **Save to album** option and click the Insert button. The files are added to the last album that you had open.



To relink “lost” images, right-click over the album in the Options panel and select either **Relink** or **Refresh**.

Printing album thumbnails:

1. Click the **Album** icon on the Get toolbar and then choose an album from the Options panel.
2. Press the Ctrl key, and in the workspace, click the thumbnails you want to use. The selected thumbnails are highlighted in green.
3. Click the **Print** button on the Command panel and select a print method.



You can quickly jump to the Print option you want to use by hovering your pointer over the **Print** button on the Command panel. When the submenu appears, click the **Print** icon you want.

Working with Images

Adjusting Images

After you have acquired an image from a scanner or digital camera, it may need some adjustments. Photo Express provides you with the perfect tool for adjusting your photos: the Transform tool.

To re-align a photo:



1. After scanning the photo, open it from either Album or from File directly into the workspace if you haven't already scanned it directly there.
2. Put your mouse over the **Edit** category button and select **Adjust** from the pop-up submenu. The Adjust tools appear on the Toolbar.
3. Click the **Transform** button on the Adjust toolbar. The Transform options appear in the Options panel.

- ☛ To freely rotate a photo, select the spin wheel in the upper right or lower left corner of the photo and rotate into position.
- ☛ To position it more accurately, enter an order of degrees in the Options panel and then click either Rotate Left or Rotate Right to implement it.
- ☛ To flip the photo, click either **Flip Horizontally** or **Flip Vertically**.



You can re-size an image during transformation by clicking and dragging the handles on the upper left or lower right corners. You can also move the image in the workspace by dragging it with your mouse cursor.

To trim your photo:



1. Click the **Trim** button in the **Edit: Adjust** category. The Trim options will open in the Options panel.
2. Select a **Trim shape** and then set the amount of **Soft edge** you want to soften the edges of the trimmed photo with.
3. Click **Apply** to trim the photo.

*Note: You can open the trimmed region in a new editing work space by selecting the **Create New Image** option.*

To re-size your photo:



1. Click the **Size** button in the Edit: Adjust category. This opens the Size options in the Options panel.
2. Select either a predefined size from the **Standard** drop-down menu, or enter custom dimensions for the image in the **User defined** option.
3. Select the **Keep aspect ratio** button to maintain continuity between height and width as you resize. This keeps the image from getting stretched unnaturally.
4. Finally, you can define the image's **Resolution**. This determines how the image prints on paper - the lower the resolution, the less pixels used to generate the image, while a higher resolution uses more pixels to create an image resulting in a larger file.
5. Click **Apply** to resize the photo.

Sharing Images

Printing Images

Once you have put the finishing touches onto your photos, it is time to print them out. Photo Express contains numerous printing options, letting you output posters and name cards in addition to its regular printing duties.

To print an image:



1. Select the image you wish to print from the Thumbnail scroll, or select an image or images from an available album.
2. Click the **Print** button on the Command panel. The print tools appear on the Toolbar.
3. Select a print tool to use.

Normal lets you print images normally on various different types of paper (from Letter to A4 to envelopes).

Tile resamples the image down to tile it multiple times on the page, creating custom "picture cards" or postcards.

Poster resamples the picture up, allowing you to print portions of it on separate pieces of paper effectively creating posters and banners.

4. Click **Print**.



You can also print album thumbnails. For more on this, see **Working with Album - Printing album thumbnails**.

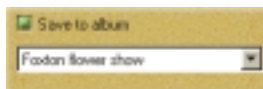
Saving Images

After work on your photo is complete, you may want to save it. In Photo Express, you can save a photo in a variety of different image file formats. Each file format has its own unique properties and characteristics. Some formats, however, are better than others for specific situations, such as saving for the Web are.

To save a photo:



1. Click the **Share** button on the Command panel. The Toolbar displays the different Share tools.
2. Click the **Save** button on the Toolbar. The Save options appear in the Options panel.
3. Enter the location, name, file type, and data type.
4. Select an album from the **Save to album** drop-down menu.
5. Click **Save**.



❑ Data type describes how much colour information the image is saved with. The more colour information included in the file, the larger the file tends to be. The highest colour data type is True Colour and files saved with this data type can be very large. Indexed-256 and Greyscale each contain up to a maximum of 256 distinct Colours and generally are quite small.

❑ Some file types that you can use are: BMP for saving your photos at the highest level of quality with no compression; JPEG for photos you want to use on the web or send via e-mail - it compresses photos with a small reduction in overall quality; UPX for saving photos with unmerged, free-floating objects. These objects can be used again when the file is re-opened.

Express Yourself

Create Calendars

One of the easiest tasks to accomplish in Photo Express is making calendars, either for your Windows desktop or for your real desktop. They are great gift for your friends and loved ones, in addition to being a convenient way to keep track of important dates in style.

To create calendars:



1. Get the image you want to use as the calendar image.
2. Click the **Express** button on the Command panel and then select the **Calendar** icon from the Toolbar.
3. Choose a type of calendar from the samples and modify it to fit your needs.
4. Click and drag the photo or date object to move it. Or, resize it using the control handles on the image's border. Edit text and dates by selecting the object that contains it, then click the **Planner** button on the Shortcut bar to add notes or holidays to individual dates as well as add props from the **Clipart** box.
5. When your calendar is ready, set it as Windows wallpaper by clicking the **Wallpaper** icon in the Options panel, or send it to the Windows clipboard (to paste it into other applications) by clicking the **Clipboard** icon. Finally, print the calendar by clicking the **Print** button.



On the Shortcut bar, click the Command Menu icon to open the Calendar Command Menu. This is where you define the properties of the calendar, such as font, Colours, and text style, among other things.

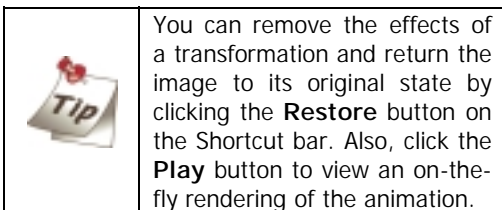
Morphing Photos

One of Photo Express' more novel effects extras is that of image morphing. Morphing transforms an image over time to create interesting and unique "warps" of the original photo. Image morphs are output as either image sequences or animated GIF files.

To morph an image:



1. Get the photo you want to morph from an album or from your hard disk.
2. Click the **Express** button on the Command panel. The **Express extras** appear on the Toolbar.
3. Select the **Morph** icon from the Toolbar.
4. Choose a transformation from **Type**. To use the transformation, move your mouse cursor into the workspace and start "painting".
5. On the Shortcut bar, click the **Add Item to Storyboard** button. This adds the current image to the Storyboard.



6. When your Storyboard is complete, save the file to disk by clicking the **Save** icon on the Shortcut bar.

Note: You can output image morphs as either an image sequence or GIF animations. GIF animations are useful for putting your images on the Web while image sequences are best for searching through the individual frames to find the one that really stands out.

Working in Project Mode

The Project mode gives you a focused environment in which to create custom greeting cards, calendars, invitations, birthday and anniversary cards, name cards, and planners. The Project mode is useful for getting through a "project" as quickly and efficiently as possible. It is where Photo Express lives up to its name, speeding you through all the necessary tasks while keeping all the unnecessary or extraneous components secure in the background. While in Project mode, you can only open template files, but you can add photo files of any image type to your templates in the process of customising them.

To Begin a New Project



1. Click the **Project** tab when you start Photo Express. Photo Express then switches over to Project mode, which contains slightly different options and commands than **Photo** mode.
2. Click the album icon on the Toolbar and then select an album from the Options panel. Albums are categorised by type, such as Flyers, Greeting Cards, and Invitations to name a few.
3. Choose a template from the album and click the **Edit** button on the Command panel. The template opens into the workspace.



You can create your own, custom templates in Photo mode. All you need to do is set your template up (i.e. add text objects and artwork) and then save it as a *.tpx file. This file can then be opened in **Project** mode and saved to one of the many **Project** albums or added to a custom album.

Working with Templates

Photo Express' unique templates can be edited and customised to suit your own needs. Templates consist of multiple components, usually a combination of text and photos with a decoration or two perhaps thrown in. To change any one of these components, simply select it and choose the appropriate tools from the Toolbar.

To replace images in a template:



1. Click the **Edit** button on the Command panel. When the submenu opens, click **Place**. The Place tools appear on the Toolbar.
2. Click the **Album** icon.
3. In the Options panel, select the image you want to insert from an available album.
4. Click **Replace**.



You can also insert images that are already open in the workspace. Simply click the Workspace icon on the Place toolbar and select the image you want to add to the template.

To move one object over another:



1. Select the object you want to move up.
2. Click the **Move Object Up** button on the Shortcut bar. This moves the object up one level, placing it above and over objects lower than it in the hierarchy.



Use the **Move Object Down** button to place the object below other objects.

Adding Decoration

One category of tools on the Edit menu in Project mode is unique to that tab: Decoration. These are special, object-based effects such as Frames, Edges and Props you can use to enhance photo objects in a project.

To add special edge effects to a photo object:

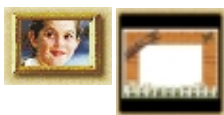


1. Select a photo object.
2. Click the **Decoration** button on the Edit submenu of the Command panel.
3. Click the **Edges** icon on the Toolbar.
4. From the Edges drawer, click the **Magic** icon. This opens the Magic Edges options in the Options panel.
5. Select a Magic Edges preset and click **Apply**.



You can create unique Magic Edges by clicking the **Custom** tab in the Magic Edges Options panel.

To add frame to a photo object:



1. Select a photo object.
2. Click the **Frames** icon on the Toolbar.
3. Select a frame from the Options panel.
4. Click **Apply**.



Note: You cannot apply frames to a background image.

Printing Templates


As with Photo mode, **Project mode** lets you print your work when you're finished with it. The same options available in Photo mode apply in Project mode as well. For more on printing, see **4-8 Printing Images** and the on-line help.

To print a template as name cards:



1. Click the **Print** button on the Command panel.
2. Select the **Tile** icon from the Toolbar. The Tile options appear in the Options panel.
3. Enter the number of rows and columns. This establishes how many name cards are printed per page.
4. Select your printer from the Printer name drop-down menu.
5. Select the paper size you want to use from Paper size drop-down menu.
6. Click **Print**.

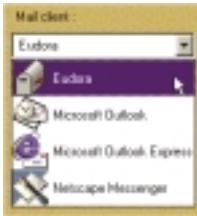


	<p>❑ To further define the layout of the name cards on the page, click the Options button. This opens the Layout options dialog box, giving you control over such things as X- and Y- offset, spacing, and image size, among others.</p> <p>❑ To set up your printer options, click the Printer Properties icon on the Shortcut bar.</p>
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Sharing Templates

Sharing templates works exactly the same way as sharing photos in Photo mode. You can print, e-mail, fax, or output them to web pages. For more on these tools, see the on-line help and related documents.

To e-mail a template:

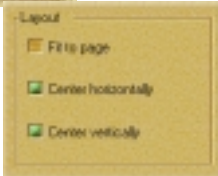


1. Click the **Share: E-mail** button on the Command panel.
2. Click **Send**.



Select your default e-mail client from the Mail client drop-down list for help on how to set it to work properly.

To fax a template:



1. Click the **Share: Fax** button on the Command panel.
2. Set the desired Layout options.
3. Click **Send**.



Microsoft Fax must be installed first before you can use this feature.

To output a template as a Web page:



1. Click the **Share: Web Page** button on the Command panel.
Set up the web page's parameters (i.e. number of rows and columns of the images to display per web page).
Select To Mail from the Destination drop-down menu.

Click **Apply**.

5. DIAMOND VIEW COPIER

Copier is a software application that combines your scanner and printer into a copying machine, making it easy to copy images and documents.

You can use Copier to:

- **Scale images or documents up and down**

The scanned image can be diminished or enlarged within the size of the paper.

- **Partial copy**

You can specify an area of the document to copy using the scan preview window.

- **Save as a file**

The scanned image can be saved as a file.

Note: You can also refer to the Copier on-line help for more details on how to use Copier.

Adjusting Copier Settings

In order to make better copies, it's important to know how to adjust the settings in the Copier.



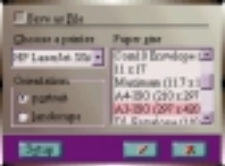
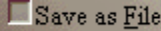



To open Copier, click **Start** on Windows taskbar, move the mouse cursor over **Programs**, **Copier** and then the **Copier** icon. Click on it and the Copier panel will appear as shown below:




Copier Parameters

The table below is a list of Copier parameters. Before you start to copy, adjust the parameters as required.

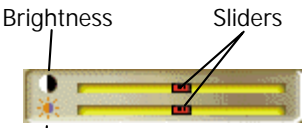
Icons

Icon	Parameter	Description
	Scanner driver	To select your scanner driver, click this icon until your scanner driver appears in the Information Window.
	Printer	Allows you to select the printer type or save the copy output as a file for future use. When you click on this icon, the  dialog box appears. Select the printer and paper size you want, or click on Setup to configure your printer. To save the output as a file, select  .
	Image Type	Sets the image type as Text, Colour Picture and Grey Picture. To set image type, click this icon until the right image type appears in the Information Window. Default setting is Text .
	Copy quality	Sets the copying quality as High Quality or High Speed. To copy an image quickly, choose High Speed. Otherwise, choose High Quality for better results especially if you are copying colour pictures. The default setting is High Quality .
	Reset all settings	Resets all of the above parameters to their original settings.


Information Window

 <p>Diamond View V3.20 HP DeskJet 690C Text High Quality Auto Function 03</p>	<p>The Information Window shows the current settings for the Scanner Driver, Printer, Image Type, Copy Quality and number of copies.</p>
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Brightness and Contrast

 <p>Brightness Sliders Contrast</p>	<p>The sliders are used to adjust the image contrast and brightness.</p> <p>Drag the slider with your mouse or press the right and left arrow keys to adjust the contrast or brightness.</p> <p>The sliders appear in red when they are in the middle or grey elsewhere.</p>
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Number of Copies

 <p>Digit keys Clear key</p>	<p>The numeric keys are used to set the copy number. Valid copy number for output to printer is from 1 to 99. Press the digit keys to set the copy number and the number you set will be shown in the information box.</p> <p>Note: If you save the output as a file, the copy number can only be set to 1. The digit keys are ineffective.</p> <p>The Clear button clears the copy number and resets it to 1.</p>
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Buttons



	<p>Start Copying button. Press this button to start copying the image to the printer or a file. The button changes to  while the scanner is copying and you can press it to stop copying.</p>
	<p>Minimise button. Press this button to minimise the Copier panel.</p>
	<p>Exit button. Press this button to exit Copier.</p>
	<p>Preview button. Press this button to open the preview windows. This button changes to  when you are in the Preview Menu. Click this button to exit Preview.</p> <p>Copier has two preview windows - scan preview and print preview. Press  to scan the preview image.</p> <p>When copying, the button changes to  and you can press this button to terminate scanning. See the on-line help for more details of the Preview functions.</p>
	<p>Ready lamp. If the indicator lamp is green, this means that the scanner is ready and you can scan the next document or image. A blinking lamp means that the scanner is busy.</p>
	<p>Help button. Press this button to open the Copier on-line help.</p>

How to Use Copier

Follow these steps to copy a document:

1. Open Copier.



2. Place the document you want to copy facing down on the scanner glass plate. Set the Copier parameters properly.
3. Click on the  button to start copying. Note that when copying is under progress, this button changes to  and you can click on this button to cancel copying anytime.

<Memo>



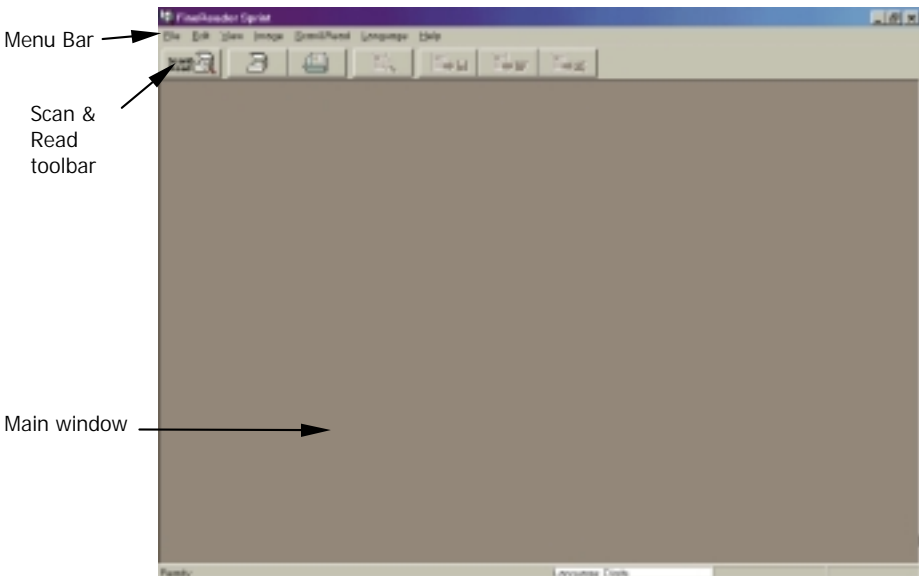
6. FINEREADER SPRINT OCR

FineReader is an omnifont OCR (Optical Character Recognition) system. This means that, without preliminary training, it can deal with text of practically any quality, printed with any font. With your scanner and FineReader, you can scan and recognise the text in a document and save the result as an electronic text file instead of painstakingly re-entering the text with your keyboard.

This chapter will give you a general instruction on how to use the quick scanning and recognition function provided by Fine Reader. For detailed description on Fine Reader's features and advanced functions, please refer to the electronic user's manual under the Fine Reader directory on the software disc.

Getting Started

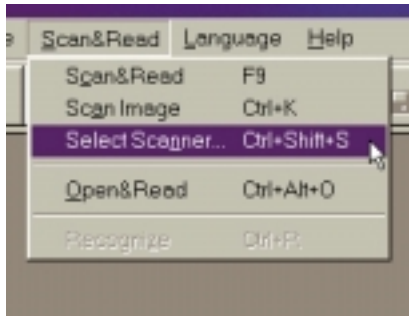
To run FineReader, click Windows **Start** button, then move the mouse cursor over **Programs, ABBYY Fine Reader** and click on **ABBYY FineReader Sprint**. The following main screen will appear:



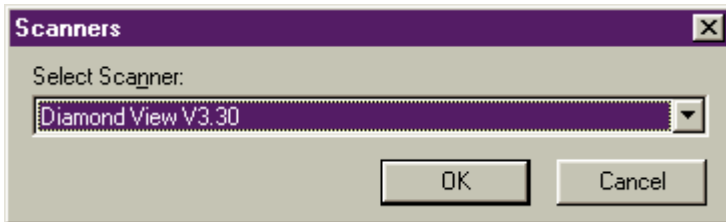
Before you can use FineReader with your scanner, you have to select your scanner as the image input source. Follow the steps below:

To select your scanner as the image source:

1. Click **Scan&Read** on the **Menu bar**, then click **Select Scanner....**



2. The following dialog box will pop up. Select **Diamond View Vx.xx** and click **OK**.



Note: Before you select the scanner, make sure the Diamond View driver program has been installed properly. You do not have to select the scanner every time you use FineReader.

To recognize a document using the Scan&Read button

After you have selected your scanner as the image source, you can start to use the **Scan&Read button** to recognise a document.

Make sure you have placed a document hard copy face down on the scanner, the scanner is installed properly and power is turned ON.

When everything is ready, follow the steps below to begin scanning:

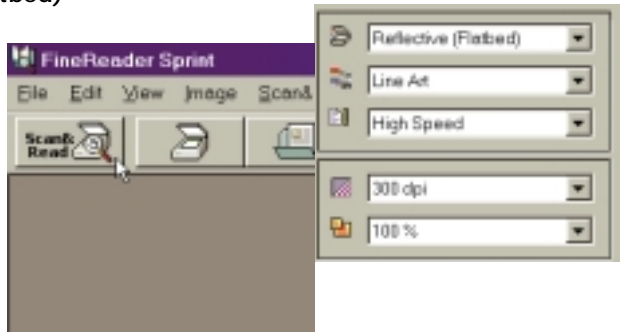
Step 1: Push the Scan&Read button

Click the Scan&Read button on the Scan&Read tool bar. The Diamond View main screen will pop up. Set the scanning parameters as follows:

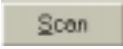
Original : **Reflective (Flatbed)**

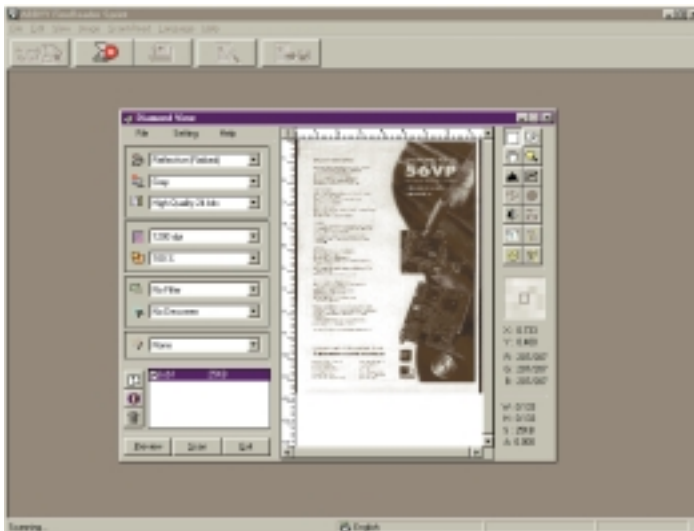
Image type: **Line Art**

Resolution: **300dpi**



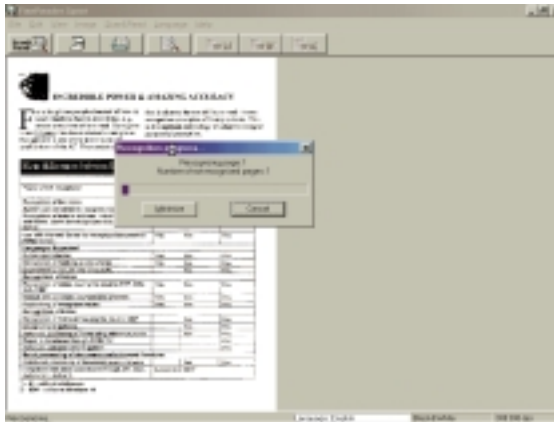
Step 2: Scan

Preview the document. Adjust the scan area in the Diamond View main window to enclose the part of the document to be scanned. When ready, click  button to start scanning.






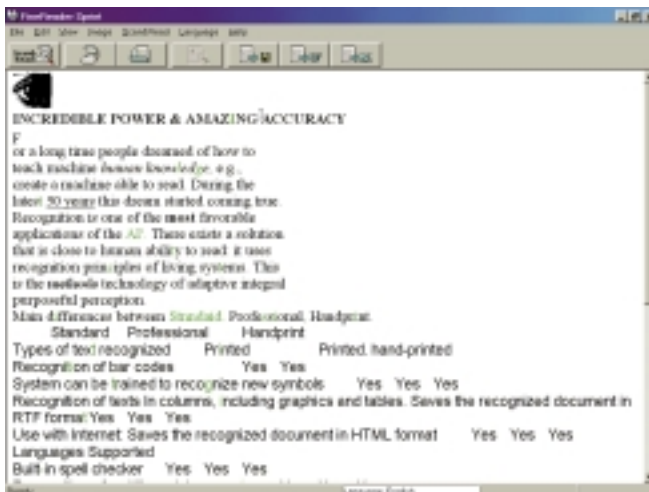
Step 3: Recognize the scanned image

When scanning is completed, close Diamond View. Fine Reader will start to recognize the scanned image.



Step 4: Save the result

After the recognition process is completed, the result will be displayed in the Main window. You can click  to save the result as a text file or click  to save to Microsoft Word. You can also click  to save the result to Microsoft Excel.



Tips for Improving Recognition Quality


If you have a text document with many unrecognised characters, the reason may be that the source image is of a poor quality. You should set the correct brightness, and resolution and use the Diamond View scanner's Threshold function then rescan the image. Make sure the page is clean of any pencil marks, dust, etc and clean it off if necessary.

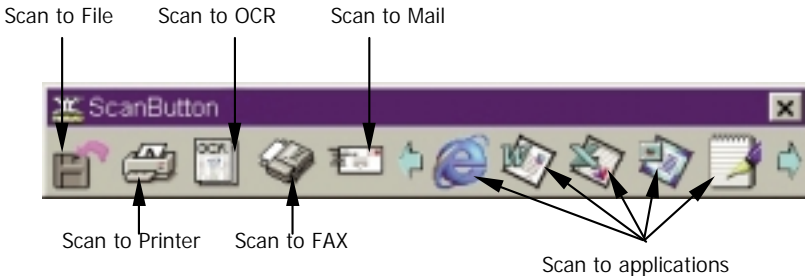
A poorly recognised text can be due to incorrect recognition parameters, e.g., selection of an incorrect language or selecting too many languages. For instance, recognition errors in each line may be caused with recognition of an English text with English-Russian language.

7. SCAN BUTTON

The Scan Button is a convenient tool for scanning and importing images directly into application software that you use most frequently. With Scan Button, you no longer have to open the application software first and dash through menu and submenus to acquire and import images. With just a mouse click, Scan Button will do it all!

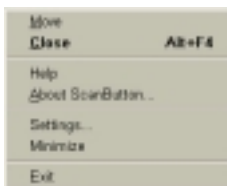
Introduction to Scan Button

After Scan Button is installed, a shortcut will be added into the Start folder. Every time you turn on your computer, the Scan Button toolbar will appear on the screen for easy access, and a small icon will also be displayed on the right side of the Windows Task Bar. 



(Depending on the applications you have installed, the contents of the Scan Button toolbar shown here may be different to that displayed your screen.)

You can right-click the title bar of the Scan Button toolbar to display the following submenu:



Help: choose this item to read the on-line instruction for Scan Button.

About Scan Button...: choose this item to display the version number and other related information about Scan Button.

Settings...: enter the Setting window and change Scan Button settings.

Minimise: hide the Scan Button toolbar and minimise into an icon on Windows Taskbar.

Exit: quit Scan Button.

Scan Button Settings

Before you start to use Scan Button, you need to adjust the settings properly in order to match your needs. Select **Settings...** from the submenu, and the Setting window will pop up on the screen:

Options in the **General** tab:

Button View:

You can choose to display the Scan Button toolbar in two different sizes: **Large Icon** and **Small Icon**.

If you choose to display the Scan Button tool bar in **Small Icon**, it will look like this:




Scanner

You can push the **Select Source...** button to select or change the scanner you use to work with Scan Button. If you have installed a scanner before you set up Scan Button, the scanner will be selected automatically.

OCR Application

You can select or change the OCR application that is used with Scan Button. If you have installed Fine Reader before you set up Scan Button, it will be selected automatically.

Temporary file location

You can click  button to browse and select the location to save the temporary file. To delete the temporary files, press the **Clear temp files** button.

Quick Scan

Here you can specify the action of Scan Button when you double-click the icon on Windows Taskbar. For example, if you choose **Scan to Printer**, the next time you double-click the Scan Button tray icon, Scan Button will be activated and start to scan and print the scanned image to the printer you designated.

Minimise when startup

When the **Minimise when startup** box is checked, the Scan Button toolbar will not display on the screen, and there will only be a small icon on the system tray.

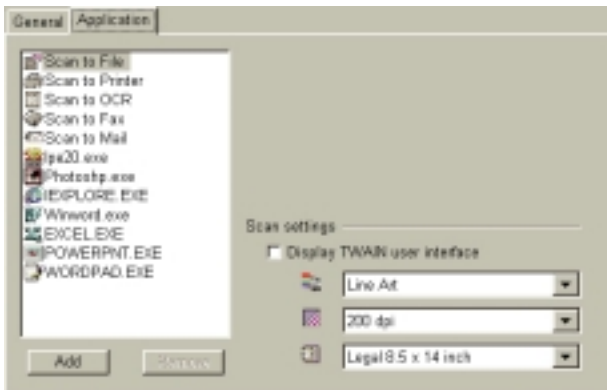
Options in the **Application** tab:

In addition to the basic functions Scan Button provides, you can choose to add or delete the applications that are used to work with Scan Button. If you want to add an application to the list, click **Add** button to browse and select the application to add, and then click **OK**. If you want to remove an application from the list, simply highlight the item and then click the **Remove** button.

Scan settings


You can adjust the image type, scan resolution and size here. If the **Display TWAIN user interface** box is checked, Scan Button will bring up the scanner driver user interface and disable its own scan setting options.

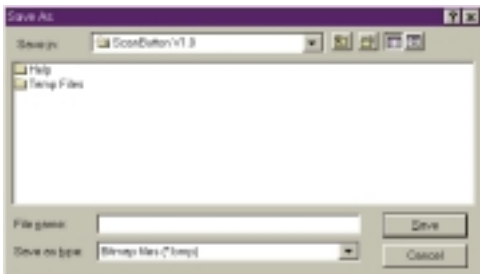
For more detailed information about Scan Button settings, please refer to the on-line instructions.



Using Scan Button


Scan to File

Click the **Scan to File**  button, and the scanner will start to scan the original automatically. When the scan has finished, a **Save as** dialogue box will pop up asking where you want to save the scanned image:




You can specify a location and name for the scanned image and then click **OK** to save the image.


Scan to Printer

Click the **Scan to Printer**  button, and the scanner will start to scan the original and the scanned image data will be sent to the specified printer.


Scan to OCR

Click the **Scan to OCR**  button, and the scanned image will be imported into the OCR software and the recognition process will start automatically. When completed, you will be prompted to specify the name and location to save the document.

Scan to FAX

Click the **Scan to FAX**  button, and the scanned image will be sent via the fax device or software you specified.

Scan to Mail

Click the **Scan to Mail**  button to send the scanned image via the mail client software you specified.

Scan to Application

Depending on the software applications that you have installed and selected for Scan Button, different buttons representing the applications will also appear on the Scan Button toolbar. You can click the button to scan and import the scanned image into the application directly. For example, if you click the **PhotoExpress** button, the scanner will start to scan the original automatically. When scanning is completed, PhotoExpress will be activated automatically and you can begin to edit the image.



In addition to the buttons on the Scan Button toolbar, you can also use the Quick Scan function by double-clicking the Scan Button system icon to execute the action you specified in General tab in the Setting dialogue box.

8. TROUBLESHOOTING AND FAQ

FAQ

1. **Why does Diamond View display the message “Scanner is warming up” whenever I scan or preview after I change the Original type or Scan Mode setting?**

Answer: When you change the Original type or Scan Mode, the scanner needs to switch the lamp used for scanning so a warm up time is needed.

2. **When I preview transparent originals, why does the colour of the preview image change as I move or adjust the size of the selection rectangle in the Preview Area?**

Answer: When processing the image data of transparent originals, the Diamond View driver program will dynamically optimise the colour according to the image enclosed in the selection rectangle. Therefore, when you move the selection rectangle or change its size, a slight colour change will occur to the preview image.

3. **When I scan films, why does the colour sometimes deviate from that of the original?**

Answer: Because the image data area of the film is not sufficient for the scanner driver to calibrate image colour accurately. Try to use another film type setting for scanning.

Troubleshooting

1 The scanner can not be accessed and the message “Scanner not found” is displayed.

Make sure that the SCSI cable is connected properly to your PC and your scanner is turned on before you start the PC. Otherwise, try turning on the scanner, then enter Windows **Control Panel** and click **Refresh** in **Device Manager** tab of **System**.

Check the SCSI ID number of the scanner. This is set by the number setting at the rear of the scanner. Make sure that that the SCSI ID of the scanner is unique. Change the scanner's ID if there is another SCSI device with the same ID. Do not use SCSI ID 0 for the scanner.

Also, make sure that the SCSI data bus/chain is correctly terminated. Connect a terminator to the last device in the chain. Use the terminator supplied with the scanner if it is the last device.

2 The Auto Crop function sometimes fails.

Diamond View performs the Auto Crop function by first estimating the outline of the image. If the outline of the image is unclear or can not be easily recognised, the driver will not be able to decide the correct shape to crop. This is usually caused by an irregularly shaped image, image data noise or a dirty glass plate.

If this happens, clean the scanner glass plate with a lint-free cloth and press the TPO unit gently while scanning.

3 The TPO lamp goes out when I lift the TPO unit.

Check to see if the TPO unit cable is connected firmly to the scanner.

4 Calibration fail occurs when I scan transparent originals.

Check to see if:

The slide/film frame is positioned correctly.

The calibration area of the transparency scanning frame is at the front of the scanner.

The TPO unit is working properly.

The TPO unit cable is firmly connected to the scanner.

5 FineReader doesn't work.

First of all, please make sure you have chosen the right data source for FineReader Sprint. If not, please choose the right scanner in FineReader.

Secondly, set the scanning image type to Line Art. For better recognition performance, set the driver threshold to an initial value to 128. This value may need to be changed depending on the content of the image that is to be scanned.

6 The driver sometimes show the message "SCSI card not found", and a few minutes later, it works properly.

To prevent damaging the scanner due to an unstable mains power supply or a short-circuit condition on the SCSI bus, the fuse on the SCSI card could be open for a while. During this period, the SCSI card does not function but after a few minutes, the fuse temperature cools down and the fuse recovers. You can solve this question by turning the scanner power off and turn it back on after a few minutes.

9. SERVICE AND SUPPORT INFORMATION

If problems persist after you check this manual, you can contact your dealer or consult the technical service below:

For driver and hardware questions, please send an e-mail (Containing detailed descriptions of the problem you come upon, the hardware and software environment of your system) to the following address:

support@meaust.meap.com

For free driver updates, product information and news release, please visit the following web address:

<http://www.mitsubishi-electric.com.au>

For questions on using the bundled application, please consult the following web addresses:

<http://www.ulead.com> (Photo Express)

<http://www.abbyy.com> (FineReader)

Packing Directions

To avoid possible damage during transportation, please follow these guidelines when repacking your scanner before moving it or returning it for service. Mitsubishi Electric Australia cannot be held responsible for any damage that may occur during shipping:

1. **Lock the scanner:** you can find the lock on the bottom of the scanner and on the overhead transparency scanning module.
 2. **Use the original shipping container and packing materials for repacking.**
 3. **Send only the scanner and other hardware required for the repair.**
-

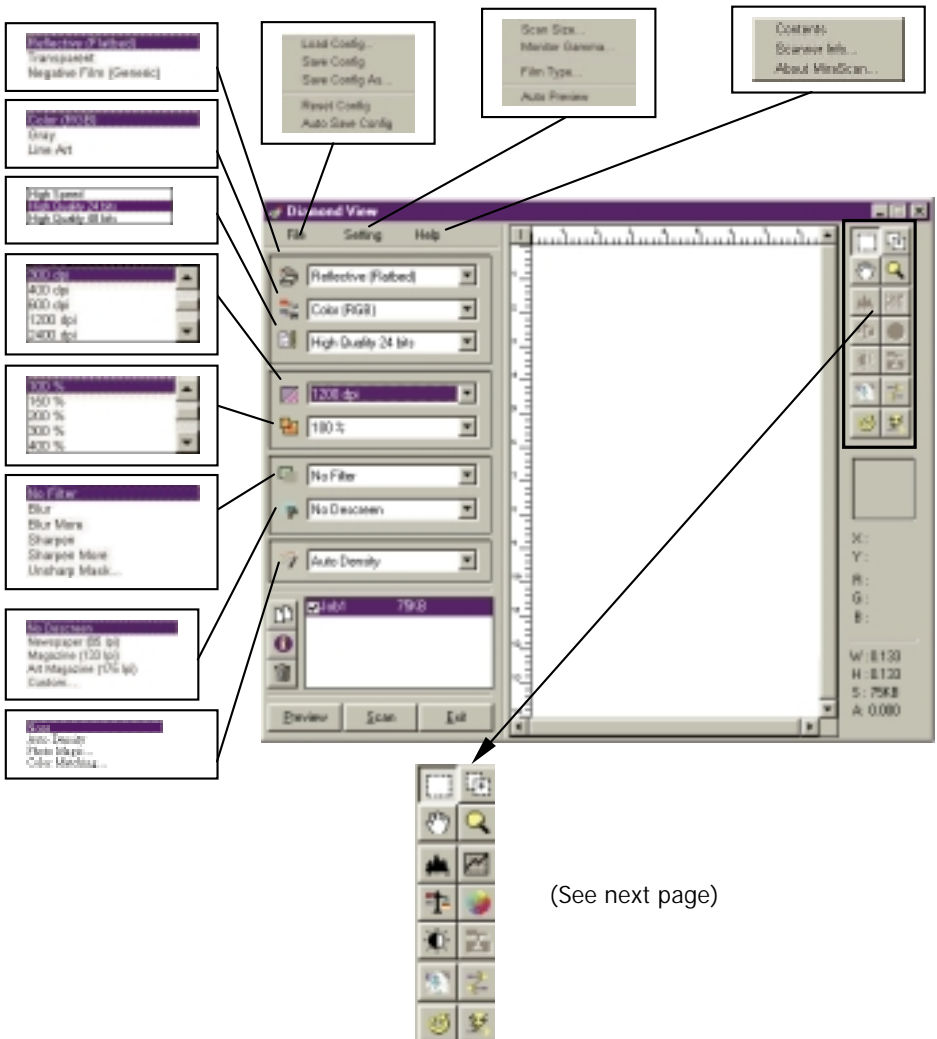
Returning Your Scanner for Service

In the event that you need to return your scanner for service, please ensure that you enclose:

1. Your name and daytime telephone number including area code
2. A copy of your receipt or other proof of purchase if you are making a warranty claim.
3. A return delivery address
4. A clear description of the problem(s) that you encountered including the version numbers of the programs or applications that you were using when you encountered the problem.
5. Details of the computer that you are using:
 - the type of computer - Mac or PC, microprocessor type and speed, amount of memory/RAM
 - the operating system, for example Windows 98, Windows 98 or MacOS System 8.5.
 - details of any other SCSI devices that are connected to the computer.

For servicing details contact Mitsubishi Electric Australia on (02) 9684-7669 or via our web site at www.mitsubishi-electric.com.au.

APPENDIX. DIAMOND VIEW MAIN SCREEN GUIDE



Diamond View Main Driver Screen Guide (continued)

